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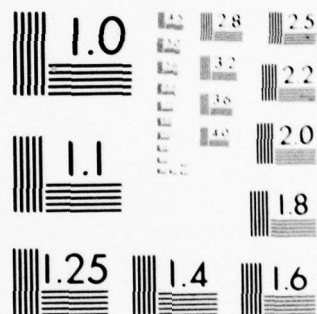
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**ROLE OF WOMEN IN THE MILITARY:
AUSTRALIA, CANADA, THE UNITED KINGDOM,
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May 1978

ROLE OF WOMEN IN THE MILITARY:
AUSTRALIA, CANADA, THE UNITED KINGDOM, AND THE UNITED STATES

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The research papers were organized into five topical areas: Enlistment, Attrition/Retention, Attitudes Impinging on Assignment, Interpersonal Factors, and Utilization and Job Performance. A short historical overview and a description of the more important sex-specific laws and regulations were included to foster understanding of the antecedent events and constraints affecting the utilization of women in the armed forces of Australia, Canada, the United Kingdom and the United States.

The role of women in the societies of each of the TTCP countries is currently undergoing redefinition and the impact upon the military is noticeable. Research issues growing out of this fact and common to all four countries were obvious throughout the review.

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FOREWORD

This paper was prepared for the Social Processes and Values Panel of the Behavioral Sciences Subgroup of The Technical Cooperation Program (TTCP). The program is made up of military scientists from the four major English-speaking countries: Australia, Canada, the United Kingdom, and the United States. TTCP was created as a means of promoting an exchange of research and development information on topics of mutual concern to the armed forces of these countries.

The cooperation of the members of the panel who searched out and forwarded research papers on military women is gratefully acknowledged. Particular appreciation is expressed to LTCOL Shirley Bach, USAF, who contacted the military representatives of Australia, Canada, and the United Kingdom to obtain much of the information on laws and regulations that affect women. Appreciation is also expressed to Ms. Marsha Olson and PNCM David Perkins for their help in reviewing and organizing the materials.

J. J. CLARKIN
Commanding Officer

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SUMMARY

Problem

The changing role of women in the military is a timely and controversial subject. It focuses on three basic questions:

1. Is society ready to let women participate in warfare?
2. Are women physically and psychologically capable of combat?
3. Will a sexually integrated military preclude the maintenance of "good order and discipline?"

Because these questions are rooted in beliefs, once nearly universal, about women's proper place in the scheme of human events, a great deal of emotion often accompanies their discussion. For the personnel psychologist, however, they involve (1) measuring attitudes toward women, (2) determining whether females as a class can perform in various military jobs, and (3) investigating the dynamics of male/female interpersonal relationships in a military setting.

Purpose

The purpose of this paper is to review the significant research on military women in the nations of The Technical Cooperation Program (TTCP). Because of these nations' common origin and similar social evolution, it was inevitable that issues of mutual concern would be found. Research and development performed in one member's military has great potential applicability in the services of the other three.

Approach

Research papers written since 1960 on women in the military were solicited from TTCP member countries and were organized into five broad topics: Enlistment, Attrition/Retention, Attitudes Impinging on Assignment, Interpersonal Factors, and Utilization and Job Performance. A brief historical overview and a description of the more important sex-specific laws and regulations were written to foster an understanding of the constraints that affect the utilization of women in the armed forces.

Conclusions

Two-thirds of the research on women in the armed forces of the four major English-speaking countries has been published in the last 2 years. Much of it has focused on intersex differences in attitude and motivation, patterns of aptitude, and anthropometry. Little attention has been paid to women's career behavior, interpersonal problems in cross-sex supervision and leadership, and female officers. However, the role of women in the societies of TTCP countries is undergoing redefinition, and the impact of the change upon the military is noticeable. The scarcity of research on military women prior to 1970 has been a reflection of their limited number and the resulting low priority given to their problems. That era has passed, however, along with the period of simply describing and quantifying the female military member.

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INTRODUCTION

Problem

The changing role of women in the military is a timely and controversial subject. It is curious that so much interest has been generated during peacetime, for it is usually the manpower requirements of war that bring military women out of limbo. The current exigency seems to have evolved as a decline in the number of male enlistees has accompanied the growth of the feminist movement. In addition, the increased emphasis on technology and deterrence has lessened the reliance on physical combat. Taken together, these trends have created a climate conducive to the development of new roles for military women.

The controversy surrounding the substitution of women for men in military jobs focuses on three basic questions:

1. Is society ready to let women participate in warfare?
2. Are women physically and psychologically capable of combat?
3. Will a sexually integrated military preclude the maintenance of "good order and discipline?"

Since the controversy is rooted in beliefs, once nearly universal, about women's place in the scheme of human events, a great deal of emotionalism often accompanies their discussion. For the personnel psychologist, however, they involve (1) measuring attitudes toward women, (2) determining whether females as a class can perform in various military jobs, and (3) investigating the dynamics of male/female interpersonal relationships in a military setting.

Purpose

The purpose of this paper is to review the significant research conducted in The Technical Cooperation Program (TTCP) nations on the women in their armed forces. Because of the common origin and similar social evolution of these countries, it was inevitable that issues of mutual concern would be found and that research and development performed in one member's armed forces would have potential applicability in the services of the other three.

Background

At the April 1975 meeting in Toronto of the Social Processes and Values Panel of TTCP, the role of women in the military services of member nations was introduced as a topic for review. Responsibility for that review was assigned to the Navy Personnel Research and Development Center. The research papers that were forwarded for that review reflected five broad topics: Enlistment, Attrition/Retention, Attitudes Impinging on Assignments, Interpersonal Factors, and Utilization and Job Performance. In addition to these topics, this review will also present a brief historical overview and a description of the more important sex-specific laws and regulations that have affected the utilization of women in the military. No studies conducted before 1960 will be discussed because of the sweeping changes in policy that have occurred since then.

HISTORICAL PERSPECTIVE

The beginning of women's participation in the armed forces of Australia, Canada, the United Kingdom, and the United States is somewhat uncertain. In almost every war, female citizens performed some military duties, either as camp followers, as members of an auxiliary, or disguised as men. However, such women were neither subject to military discipline nor considered the armed forces' responsibility to uniform, to billet, or to compensate.

The creation of the nursing services is usually acknowledged as the inception of women in the military. The United Kingdom's nurse corps was founded in 1881 (First Boer War); Canada's, in 1885 (Northwest Rebellion); Australia's, in 1898 (South African War); and the United States', in 1901 (Spanish-American War). For the most part, the nursing corps were military organizations whose members were denied rank, benefits, or officer status. They were created because of the difficulties of employing civilian nurses with an army waging war.

Not until World War I were women utilized under military command in nonnursing jobs. The unprecedented need for manpower was not the sole cause of organizing cadres of women; previous conflicts (e.g., the American Civil War) had resulted in a greater proportion of the male population being mobilized. Instead, as Treadwell (1954) cogently observed, the industrialization of society and war was a necessary prerequisite to the recruitment of women.

Serious consideration of an official women's corps was scarcely possible before the twentieth century. Until then, war was not organized and mechanized to an extent that required more manpower than a nation could provide from among its men; the great supply system and fixed headquarters of total war were yet to come. Also, women were skilled in few duties that would have been useful to an army even had it needed manpower, and few women felt it proper to practice even their traditional tasks of cooking and nursing outside the home. Both reasons were swept away in the nineteenth and early twentieth centuries when the industrial revolution that mechanized men's wars also taught women to work outside the home. (p. 4).

Australian and Canadian women, however, were not enrolled in the military during World War I.

Australia

In 1940, the Australian government began enlisting women into the Army, Navy, and Air Force for the first time in history. Initially, women were limited to the traditional occupations of cook, clerk, orderly, storekeeper, and signals operator. However, the escalation of World War II and the obvious usefulness of the early volunteers soon opened up the more technical jobs, such as operating shore defense installations and servicing torpedoes. While Australian women were restricted to the homefront, their numbers grew to

40,000. These services were disbanded at the end of the war, not to be reinstated on a permanent basis until 1951 during the Korean War (Fowler, 1975).

Canada

Canada began compulsory registration of its women in 1940; 17,000 females were subsequently enrolled in the paramilitary Voluntary Women's Corps. In 1941, the Royal Canadian Air Force Women's Division was created, with women serving in, not with, the Air Force. In 1942, the Women's Army Corps (WAC) and the Royal Canadian Naval Service (RCNS) were created. Originally, the WAC was the Women's Auxiliary Corps, but the separate command channels, rules, and status of women were so fraught with administrative difficulties that, within a few months, the WAC was given full Army status. Women served in the Navy from the inception of the RCNS.

By 1944, the total strength of the three Canadian Corps was 33,000 (6,000 in the Navy, 12,000 in the WAC, and 15,000 in the RCAF). While their sole intended purpose was to free men from auxiliary duties to fight the war, some Army women were assigned to antiaircraft units and coastal artillery regiments and were posted to Italy, Northwestern Europe, and Washington, D. C. At the end of the war, all of the women's services were disbanded.

In 1950, the Canadian Cabinet recommended that women again be enrolled, due to the increased manpower requirements brought on by membership in the North Atlantic Treaty Organization and by participation in the Korean War. The Royal Canadian Air Force was the first to be authorized to sign up women (March 1951), followed by the Army (June 1954), and the Navy (January 1955). Approximately 4,000 to 5,000 women were members of these corps during the remainder of the decade.

In 1965, a study was conducted to determine whether there was a continued need for women in uniform (Director Women Personnel Canadian Forces, 1976). As a result, the Defence Council decreed that female participation be limited to 1,500 (.8% of the total military at that time). In 1968, when unification occurred, the separate services ceased to exist and military women were integrated into the Canadian Armed Forces.

United Kingdom

Several volunteer paramilitary groups preceded the government's formation of the first official corps of women. The First Aid Nursing Yeomanry (FANY), created during the 19th century to transport the wounded to hospitals, was the first to offer its services. This group was joined in the early days of World War I by the Women's Voluntary Reserve and the Women's Legion, which were formed to staff canteens and to work as cooks, waitresses, and drivers for troops stationed in England (Howard, 1977). In February 1917, the Army Council authorized the raising of the Women's Army Auxiliary Corps (WAAC). In September 1917, the 6,000 members of the Women's Legion were assimilated into the WAAC.

The first WAAC contingent was sent to France in March 1917 to serve at headquarters behind the lines. While enrolled in the Army, their status

was ambiguous, as is apparent in the following memorandum issued by the Director General of Transportation to his officers:

The Unit (WAAC) is commanded by a Unit Administrator who is assisted by two Assistant Administrators, One Domestic and Technical. These three administrators hold in their Corps a status equivalent to that of officers. The remainder of the personnel, though not enlisted, is enrolled for service with the Army and is subject to military law under the conditions laid down in Section 184 of the Army Act. The status of this personnel as compared with Army rank is that of Private. The women clerks, will, therefore, by treated by Officers as Privates in the Army are treated, whether on or off duty. It follows from this that none of the women clerks can be invited to an officers' mess and that intercourse with them is restricted to that which is necessary to enable them to carry out their duties in the office. (Cowper, 1967, p. 25)

On April 9, 1918, in appreciation for good services rendered, the Queen assumed the position and title of Commandant-in-Chief of the WAAC. Henceforth, it was known as Queen Mary's Army Auxiliary Corps (QMAAC). Two months later, several units of the QMAAC were assigned to the American Expeditionary Force, led by GEN J. J. Pershing. The General had arrived in Europe with an insufficient number of administrative personnel and was unable to convince the United States Congress that women should be enlisted and sent to Europe as telephone operators (Arbogast, 1973).

By mid-1918, there were 35,000 women in the QMAAC, 7,600 of whom were on the Continent. Personal diaries indicated that the women in France worked 12- to 18-hour days, 7 days a week. They were classified as clerks, telephone operators, telegraphists, domestics in officer clubs, motor vehicle drivers, and gardeners in British military cemeteries. Casualties were very light. After the Armistice was signed, the women in France remained there as part of the Occupation Army; others were sent to the Continent so that men might be released from duty. The last unit of QMAAC left Europe on September 26, 1921 along with the last British troops. The corps was demobilized the next day (Cowper, 1967).

Two other British women's services were created during World War I: the Women's Royal Navy Service (WRNS), founded in 1917, and the Women's Royal Air Force (WRAF), formed simultaneously with the RAF in 1918. The number of WRNSs reached a peak of 7,000; along with doing "women's work," they served in boats' crews. The WRAF enrolled 32,000 women during its brief existence (Howard, 1977). None of these women's services was given full military status. The women were enrolled in the military, not enlisted, and were regarded as civilians uniformed at government expense. They were required to adhere to a special disciplinary code administered by the service with which they were associated.

The pattern of British military women was repeated during World War II: First organized were volunteers eager to help during the crisis. During 1939, the Auxiliary Territorial Service (ATS) and the Women's Auxiliary Air Force

(WAAF) were created. Members were uniformed at public expense and disciplined similar to military personnel. In 1941, when women became subject to conscription, members of the ATS (retitled the Women's Royal Army Corps in 1949) and WAAF were enlisted, were paid a salary, and became official members of the military. As such, they came under military law and their officers received emergency commissions. The women serving with the Navy remained volunteers. During the 3 years of conscription, 125,000 women were inducted into the military and 430,000 volunteered for service (Binkin & Bach, 1977).

United States

As the United States prepared to enter World War I, the question of enlisting women for clerical tasks arose. Secretary of the Navy Josephus Daniels requested a legal opinion and found that the Naval Reserve Act of 1916 referred solely to the enlistment of citizens.¹ As a consequence, the first women were sworn into the Navy in March 1917 as Yeomen (F), or "Yeomanettes," as they were popularly called. They worked as clerks, telephone operators, translators, camouflage designers, and fingerprint experts. Approximately 13,000 young women served with the Navy or Marine Corps before the rating was discontinued in 1919 and some saw duty in France, Puerto Rico, and the Panama Canal Zone (Hancock, 1972).

As mentioned earlier, the U. S. Army saw the useful role played by the QMAAC in France and urgently requested the War Department to send uniformed telephone operators and clerical workers to Europe. Instead, female civilian contract employees and limited duty men were assigned overseas to meet the need. If World War I had continued, however, it is probable that Army regulations would have been amended to allow the enlistment of women, since several serious proposals to that effect were being considered at the time of the Armistice (Treadwell, 1954).

American women were enfranchised in 1920; recognition of their political power was not lost upon the U. S. Army. This same year a liaison position between the War Department and female voters was created to promote the image of the Army as "a progressive, socially minded, human institution." The job of Director of Women's Relations, U. S. Army, lacked military status but was perceived by its second incumbent, Anita Phipps, as a vehicle for planning the establishment of a women's Army corps. After a decade of discouragement she resigned in ill health, leaving behind a well-documented plan that would incorporate women into the Army rather than relegate them to an auxiliary. Phipps was followed by MAJ Everett Hughes, who in 1928 also prepared a plan for utilizing women in the Army. He argued that any future war would require the participation of women and that they should be integrated into the Army and trained before the crisis arose. After several favorable endorsements, the Hughes Plan was shelved in 1931 with the comment, "No one seems willing to do anything about it" (Treadwell, 1954). Strangely

¹This oversight was corrected in the Naval Reserve Act of 1925, which limited service to "male citizens of the United States," thus effectively delaying the entry of women into the Navy during World War II.

enough, neither of these plans was made available to those who, in 1939, initiated the study that resulted in the formation of the Women's Army Auxiliary Corps (WAAC). Contrary to the recommendations of Phipps and MAJ Hughes, this staff study recommended that women be organized as uniformed civilians in a quasi-military corps administered by the Army. No action was taken on the plan, however, until mid-1941 when the Army felt the dual pressure of patriotic women's groups and an impending bill by Congresswoman Edith Rogers that would have given women full military status. Representative Rogers realistically compromised with Army planners and on May 28, 1941 introduced a bill to establish the WAAC. The bill proposed a corps of 25,000 women to serve in noncombatant jobs with the Army, but not as a part of it. A woman director was to assume command responsibility and innumerable provisions were made regarding the benefits, ranks, and disciplining of women as distinct from men. The bill floundered for a year, despite the Army's pressure on the Congress after Pearl Harbor was attacked. Finally on May 14, 1942 the Rogers bill was passed; the President signed it (Public Law 554) the following day. The Corps' auxiliary status, with its dual chain of command and its exemption of women from military discipline, resulted in the problems anticipated by Phipps and Hughes. In June 1943, the Congress passed a bill establishing the Women's Army Corps (WAC) as a separate branch of the Army.

The legislative plan promoted by the Secretary of the Navy in early 1942 did not parallel the auxiliary concept of the WAAC but proposed an amendment to the Naval Reserve Act of 1938 to include women in time of war. The bill was forwarded by the Congress to the President with a recommendation that an auxiliary be created instead. However, Eleanor Roosevelt was persuaded to explain to her husband that full military status for women was preferable because of greater assignment flexibility and the convenience of using existing regulations. The intercession was successful. On July 30, 1942, Public Law 689 was signed and the Women Accepted for Voluntary Emergency Service (WAVES) was created. Navy women were not permitted to serve outside the United States until September 1944 but were employed in almost every type of stateside shore billet. They served as instrument flying and gunnery instructors, metalsmiths, aviation machinist's mates, and air controlmen. When peace came in 1945, the WAVES consisted of 8,000 officers, 78,000 enlisted personnel, and 8,000 women in training (Hancock, 1972).

On November 23, 1942, a third group of women was given entree to the American services "to expedite the war effort by providing for releasing officers and men for duty at sea and their replacement by women in the shore establishment of the Coast Guard and for other purposes" (Public Law 773). The law provided for the utilization of women for the duration of the war and for 6 months following its conclusion. The women, who were members of the Coast Guard Reserve, adopted the name SPAR from the Coast Guard motto, "Semper Paratus"--"Always Ready." Enlisted SPAR members were primarily given traditionally feminine assignments; of the 11,000 women who served during the war, only about 10 percent were assigned to the then male-oriented ratings of motion picture operator, radioman, and motor vehicle repairman (United States Coast Guard, 1946).

The fourth women's service, the Marine Corps Women's Reserve, was created in February 1943. Since the Marine Corps is an organizational unit within

the Naval establishment, all statutory restrictions and benefits applying to the WAVES also were applicable to women Marines. This reserve group numbered only 18,000 at its peak but women filled 87 percent of the enlisted billets at Marine Corps Headquarters and represented one-third of the personnel at most Continental posts at war's end (Hancock, 1972).

Despite legislation that voided the authorization for women in the military 6 months after the President declared the emergency had ended, only the SPAR was completely disbanded in 1946. Each of the other services found that the extensive clerical work of demobilization created a continuing need for the skills of female personnel. The first plan for a permanent women's reserve was introduced on behalf of the Navy in March 1946 but the Congress adjourned without acting on the bill. When the services were combined under the Department of Defense in 1947, the bill was revised to include all military women. One year later, after much debate, the Women's Armed Services Integration Act was signed by President Truman, authorizing women in the Army, Air Force, and Navy. After a period of broken service, the SPAR was reactivated in November 1949.

Summary

Common experiences are evident in this review. Nurses, while denied the status of full membership, were the first to gain admission. Later, the personnel needs of World War I created openings for British and American women in jobs consistent with contemporary female role concepts. When the crisis passed, the women were discharged.

The extraordinary demands of World War II resulted in almost 800,000 uniformed military women in the TTCP countries but, again, women's opportunities rode the tide of national emergency. Australia and Canada disbanded their women's services at the end of the war, only to recall them during the Korean conflict. The United Kingdom and the United States retained a small cadre of women and, during the late 1940s, permanently established positions for women in their armed forces.

ENLISTMENT

At present, the enlistment of women differs from that of men in several noteworthy respects. First, women are true volunteers; they are neither conscripted nor pressured by society to demonstrate their patriotism by joining. Second, most TTCP countries have lists of fully qualified women waiting to enlist, a luxury few nations enjoy with respect to male enlistees. Third, female enlistees are better qualified, on the average, than men because of differential enlistment criteria or the greater selectivity that is possible when the applicant pool far exceeds the demand for personnel. In this respect, the military as an employer is in a most advantageous position, so recruiting appeals directed at women are rare. According to a Central Office of Information report (1975), this void results in an information gap for the civilian sector, which knows very little about the role of women in the military.

Despite the lack of a compelling "need to know," all of the TTCP countries have conducted research regarding female enlistees. These studies fall into two general categories: (1) descriptions of the women who enlist, and (2) identification of the situational and motivational factors that led them to the military.

Australia

In 1968, the government's concern over the waning number of applications to the Royal Australian Army Nurses Corps (RAANC) precipitated a study (Sala, 1969a) to test three hypotheses: (1) that the requirement to sign on for a fixed term was a deterrent to joining, (2) that recruiting publicity was inadequate to inform the public about the RAANC's benefits, and (3) that the career needs and values of civilian and military nurses were very similar. Forty RAANC officers and 171 civilian nurse trainees were surveyed to test these hypotheses. Salas reported that both samples expressed a desire to avoid making a commitment for the required term of the RAANC contract, thus supporting the first hypothesis. Eighty percent of the RAANC regarded the lack of recruitment appeals as one cause of the scarcity of applicants to the corps. Among civilians, 93 percent stated that they knew "almost nothing" or "very little" about the RAANC, 38 percent were very interested in obtaining more information, and 17 percent were not interested. It was concluded that more publicity was needed and that the target population probably would be responsive to an advertising campaign. The third hypothesis was supported, in part, by the data; that is, military and civilian nurses identified the same three occupational values (from among a list of 11 values) as being most important to them, but ranked them somewhat differently. The order for the 40 RAANC officers was as follows:

1. Feeling of doing something worthwhile for the community.
2. Knowing that you are steadily advancing your professional qualifications and experiences and increasing your range of skills.
3. Meeting, mixing with, and working with a wide range of people.

Community service was given the highest priority by 79 percent of the RAANC officers versus 55 percent of the civilian nurse trainees, a difference that

is significant at the .01 level. The civilians placed professional advancement first and service second in their ranking of values. Salas concluded that the values of military and civilian nurses are congruent; differing only in intensity.

Using a second and larger sample of 245 civilian student nurses, Salas also investigated reasons for not joining the RAANC. Again supporting the first hypothesis, 54 percent of these women stated that having to "sign on" was a major deterrent to joining. The second most important factor, mentioned by 35 percent of the sample, was a dislike of military discipline, authoritarianism, and restrictions. Salas concluded that a perceived loss of personal autonomy is the main reason why women do not affiliate with the RAANC.

Canada

Prior to 1971, engagement standards for men and women entering the Canadian Forces were different: men were required to enlist for 5 years; women, for only 3 years. The rationale was that a "woman wouldn't make up her mind about enlisting as easily if faced with 5 rather than 3 years" (Haswell, 1974, p. 16).

The Report of the Royal Commission on the Status of Women in Canada recommended in 1967 that the selection standards for women and men be made equal. Haswell (1974), in evaluating the effect of lengthening the enlistment contract, reported that long lists of qualified applicants still existed. The only obstacle to achieving the goal of 10 percent female personnel in the Canadian Forces before the 1985 target date was the training centers' limited facilities for women. Thus, Haswell concluded that women are not deterred by a 5-year engagement requirement.

United Kingdom

In 1972, 118 Women's Royal Army Corps (WRAC) recruits were interviewed in their first week of training. Keenan (1976) reported that the most common reasons cited for joining the WRAC involved the opportunities to travel, to mix with people, and to learn a trade. Only 13 percent of the recruits reported that their peers had approved of their decision to join, while 34 percent said their peers had disapproved. Parents had tended to be more favorable.

The Central Office of Information (1975) also investigated the factors influencing women's decisions to enlist in the WRAC. Recruits identified the following factors as the most important: (1) anticipation of a good social life and of meeting people of similar age and interests, (2) expectations of training for an interesting and worthwhile job, (3) recognition that the Army is a total way of life that can replace an unsatisfactory civilian life, (4) opportunities for travel and mobility, and (5) appreciation of the standard of living offered by the Army. Personal factors likely to influence women to join the WRAC were identified as previous service connections and a desire to escape from an area lacking in vocational opportunities.

Of particular interest in the preceding study were the reasons for not joining that were derived from interviews with young civilian women: (1) loss of personal freedom, including the right to dress individually (dislike of uniform), (2) separation from family and friends, (3) perceived incompatibility between life in the service and marriage, and (4) unwillingness to be obligated for 3 years. It was concluded the majority of young British women regard the WRAC as a totally unacceptable way of life.

United States

Air Force

The United States Air Force (USAF) recently published two studies concerning its female recruit input. The first (Vitola, Mullins, & Weeks, 1974) compared the quality of male and female accessions over a 4-year period. The entire non-prior-service recruit population for the 1970-1973 time frame was included. The study's most salient findings were: (1) that women's performance was markedly superior to that of men on the General and Administrative composites of the USAF aptitude tests but inferior on the Mechanics and Electronics composites, (2) that the percentage of females with education beyond high school rose from 5 percent in 1970 to 10 percent in 1973, while that of males declined from 18 percent to 7 percent, (3) that blacks represented 15 percent of the input of both sexes, (4) that white women had more years of education and earned higher test scores than black women, and (5) that test scores climbed steadily with increasing age for both sexes.

The second USAF study (Mullins, Williams, Vitola, & Michelson, 1975) addressed the effectiveness of recruiting methods during 1973 and 1974. The more recent sample consisted of 10,666 males and 1,806 females. The earlier sample was not defined except to state that it was too small to permit bivariate analyses. Both groups were administered the Airman Enlistment Questionnaire and comparisons were made between year groups and sexes. The more important statistically significant findings were as follows:

1. The number of women indicating that a very important reason for their enlistment was that "the Air Force guaranteed me the job I wanted" rose from 26 percent to 46 percent.

2. The effectiveness of advertising improved substantially for females but remained the same for males. In 1973, only 4 percent of the women indicated that they had obtained the most information about the advantages of the USAF from advertising, as compared to 28 percent in 1974. The figures for men were 5 percent in both years.

3. Job interests of USAF females changed considerably between 1973 and 1974. The proportion applying for Missile Specialist, Mechanical, and Crafts areas doubled. The only vocational areas that declined were Medical/Dental and Other (not defined).

4. Female enlistees shopped around more in 1974 than in 1973. During the earlier period, 53 percent contacted USAF recruiters exclusively and did not speak to recruiters of the other American services; by 1974 only 20 percent decided on the USAF without considering the other services.

5. Regional differences were found in family approval of enlistments. Parents in the Atlantic and southern states were the least favorable to their son's or daughter's enlistment; families in the far western states were the most favorable.

Army

In 1968 the United States Army (USA) conducted a study of 203 members of the Women's Army Corps (WAC) to determine their motivation for joining and to identify the personal characteristics of female enlistees (Seeley, 1970). The women's mean age was 19.9 years, and 45 percent had been employed for at least 6 months prior to enlisting. Sixty-two percent said that they had their father's approval; 73 percent, their mother's approval; and only 40 percent, their peer's approval. Seeley concluded that 85 percent had joined for "sound reasons" (not defined in the study) and 15 percent manifested escapist motives.

In 1973, a study of WAC attitudes 6 months before the expiration of their first enlistment also investigated the motivation for joining (Plog & Kahn, 1974). The 45 young women who were interviewed reported a much lower approval rate (45%) by family and friends. Their childhood backgrounds revealed that 76 percent had a father or brother who had served or was serving in the military. The typical WAC recruit was reared in a small town and considered her decision to join the WAC as the best of the options open to her; that is, preferable to working at an unskilled job, going to college, or getting married.

The Army provided opportunities not otherwise perceived to be available. They could travel, receive a practical job-oriented education while being paid for training, meet new and interesting people and try something that is very different from anything they had done previously The Army also provides a sense of security and a second home. (Plog & Kahn, 1974, p. 6)

Two other categories of women emerged from the interviews: One group had developed a life goal of being a WAC that could not be fulfilled until they reached 18 years of age. They were very patriotic and liked the discipline and tradition of the corps. The second group tended to be older, divorced, lacking marketable job skills, and impressed by the benefits to be gained by joining the service. WAC officers who were interviewed concerning their perceptions of enlistees said that the contemporary young woman is more knowledgeable and sophisticated than her counterpart of 10 years ago, but that she has more adjustment problems. In the opinion of these officers, today's enlistee is motivated by selfish reasons (i.e., for job training, money, and meeting men) rather than by a genuine desire to serve her country.

Navy

Bowers (1973) investigated the changing trends in civilian work values to determine what effects those trends might have on military recruiting. The work values of United States Navy personnel of both sexes

were also studied for comparison purposes. Bowers reported that civilian women attached greater importance than men to jobs that were clean, clearly directed, nonbureaucratic, secure, and not too challenging. Although 15 of the 26 work value items showed significant sex differences in the civilian sample, none differed in the Navy sample. Bowers summarized his findings by saying, "The clearest, most parsimonious conclusion is that those women attracted to the Navy represent an atypical sample of civilian women generally" (p. 28). The applicability of these results to recruiting is doubtful, however, because the mean age of the Navy women was 27. Thus, those female personnel whose work values were inconsistent with their jobs would have fulfilled their enlistment contract and been free to leave the service; those who remained, like their male cohorts, probably had values that were compatible with Navy life. Thomas (1977) studied female/male work values among newly enlisted recruits and found that the sexes differed on almost two-thirds of the items. The female recruits, like Bowers' civilian women, placed a high value on a clean working environment and were searching for personal, rather than financial, rewards in their jobs. The findings supported the traditional stereotype of female occupational values, particularly in view of the respondents' distaste for working with machines and data, reluctance to take physical risks, and need for a daily involvement with people.

Two motivational studies, separated by 10 years, have been conducted by the United States Navy (USN) with its female enlistees. First, Horn (1965) administered a survey to 109 first-term enlistees whose mean age at the time of recruitment was 18.5 years. These women were given a list of 13 motivating factors and were asked to indicate the 3 that most influenced their decision to join the Navy. "To serve my country" and "to get more education" tied for the most important reason, followed by the desires to travel and to learn a skill. The three least important reasons were marriage, money, and unemployment.

Thomas (1977) surveyed 1,000 new enlistees in the summer of 1975. The mean age for this group, which had a mode of 18, was 20, due to the surprising number of female enlistees over 21. Thomas described the typical female recruit as having come from a happy home in a town of less than 20,000. She was single but intended to marry after completing her 4-year enlistment. She had no female friends in the military and admitted to knowing very little about service life. Her decision to enlist took more than 6 months and she looked into the programs of the other services before deciding on the USN. She felt the entry decision was entirely her own and not influenced by friends, relatives, or recruiters. While her mother, father, and siblings approved of her enlistment, almost 40 percent of her peers did not.

These 1,000 recruits were given a list of 14 motivating factors and were asked to indicate those that were important in their decision to enlist. Thomas reported that the three strongest motivators were "to make something out of my life," "for more education, new skills, or training," and "to travel and meet new people." A control group of 1,000 male recruits chose these same three factors in the same order of importance. The three least relevant variables in the decision process were "having a relative or friend in the Navy," "to leave my family or hometown," and "to help my family

financially." Again, male responses yielded identical results. It was concluded that young women join the Navy for the same reasons that young men do.

Summary

The problems being studied in these research projects are difficult to identify, except for Australia's concern over the hypothesized reluctance of females to commit themselves to a fixed term of enlistment. It appears that a generalized bemusement over why women affiliate with the military, rather than a need to investigate a specific problem, was operating in each of the services.

The most significant findings of research on the factors that influence the decision to enlist came from two studies: (1) the Australian study that showed that members of the RAANC share the occupational values of civilian student nurses, and (2) the U. S. Navy study that concluded that women enlist for the same reasons that men do. These findings should serve well to dispel the popular misconception that men and women work and enlist for different reasons.

ATTRITION/RETENTION

Within the past decade, military regulations concerning marriage and pregnancy have changed. Since these two factors were once responsible for 65 percent of all terminations of first-term female enlistees in the United States military (Horn, 1965), attrition rates hypothetically should have been reduced drastically concomitant with more liberal policies. However, practice may be lagging behind policy; that is, despite the armed forces' obvious intent to move toward more equal treatment of men and women, cultural proclivities are not easily overcome. Men and women simply are not treated identically. An officer in the United States Navy (Horn, 1965) expressed an undoubtedly common viewpoint when he said:

The attitude of the writer has been to encourage medical evaluation of those WAVES who demonstrate poor adjustment or have no desire to remain in service. No purpose is being served by holding a woman to her enlistment contract if she is not making an adjustment to service life.
(p. 22)

Thus, women who want out of the military still find it easier to obtain a discharge under honorable conditions than do men in similar circumstances.

The military services, ever conscious of rising personnel costs, cannot tolerate a high discharge rate among those who have not completed their first term of enlistment. Women's rate of attrition, which is generally higher than that of men, is therefore of grave concern and is sometimes cited as sufficient reason for not increasing the number of women in the services.

Australia

In 1968, Australia's Adjutant General appointed a group to investigate the low retention rate of first-term members of RAANC. A questionnaire was administered to an initial sample of 157 female RAANC personnel, including 82 officers (Salas, 1969b). Eliminated from this sample were senior officers, for they were obviously career oriented; and those with definite marriage plans within the next 2 years, since the law at that time precluded their re-engagement without written permission from their husbands. The final sample consisted of 97 personnel (40 of them officers) who were asked about their intentions to reappoint (reenlist) for 2 years. Among the officers, 15 said they intended to reappoint, 15 said they did not, and 10 were undecided. Among those of other rank, 10 said they intended to reappoint, 37 said they did not, and 10 were undecided. Based on previous research with male Army personnel, which indicated that two-thirds of the undecided group would probably reengage, Salas predicted that 57.5 percent of the women would stay in the RAANC and 42.6 percent would leave. He cautioned that the study with males had not been replicated and that the estimates assume that women behave as men do in these matters. Moreover, he stated that:

There is no evidence that the reappointment intentions of female officers will predict their actual reappointment behavior to the degree of accuracy which the reengagement

intentions of male other rank soldiers have been shown to predict theirs (Salas, 1969a, p. 7).

Areas of dissatisfaction among the 97 RAANC personnel were also investigated to determine why some were leaving. Factors that were viewed least favorably by the "getting out" group were small-unit duties (being on call and living in) and uniforms. Factors with equal distributions for the staying and leaving groups were satisfaction with living accommodations, dissatisfaction with the lack of overseas assignment opportunities, satisfaction with military pay, and favorable attitudes toward professional experiences and command responsibilities. Thus, even those leaving viewed the RAANC very favorably. When asked to indicate their reasons for not reappointing, 30 percent mentioned an inability to further their experience or qualifications, 24 percent said they disliked their lack of control over postings, and 22 percent said there were too many nonnursing duties to perform.

In another report to emerge from this research, Salas (1969b) investigated the relationship between the nursing sample's job satisfaction and intention to reengage. Predictably, he found significant differences between the satisfaction scores of those planning to stay and those who would be leaving, just as had been reported for men. In contrast to the men, however, pay and promotions were only slightly related to satisfaction for the women. Instead, how well expectations had been met and general satisfaction with Army life were the most robust items in the prediction of reengagement intent. Salas concluded that identification with the Army and a preference for Army versus civilian life characterized females who plan to reappoint, just as it did for males. The greatest single reason for the disengagement of women was marriage. Those disengagees who were not planning to marry expressed a high level of job satisfaction, but felt there was no opportunity to increase their nursing skills.

Canada

The Report of the Royal Commission on the Status of Women in Canada (1970) indicated that the mean length of service for women serving in 1969 was 2 1/2 years (an enlistment contract was for 3 years). Gay (1976) noted that, despite the change in 1971 permitting women who marry or become mothers to remain in the Canadian Forces, the rate of attrition is still higher for females than for males. To test the hypothesis that retention is related to commitment to work, Chappel (1977) studied enlisted women's involvement in their jobs. The literature on males in the labor force reports that commitment is related to an occupation's prestige, as measured by income and educational requirements. To determine whether the commitment of military women is similar to that of women in other occupations, Chappel interviewed social workers (high prestige), newspaper reporters (high prestige), fashion models (low prestige), and privates and corporals in administrative or clerical jobs at the Canadian Forces Base in Toronto (low prestige). Among the military women, commitment was measured by an individual's response to questions that concerned (1) the relative values of working and parenting, (2) what she would do if her husband's job required relocation, and (3) what she would do about her enlistment contract if she became pregnant. The social workers, reporters, and models were asked questions that were similar but designed for civilians. The results of that comparison are shown in Table 1.

Table 1
Commitment to Work by Occupation

Commitment Level	Occupation							
	Social Workers		Newspaper Reporters		Models		Military Women	
	N	%	N	%	N	%	N	%
Low	7	14.0	2	4.2	10	23.8	13	37.1
Medium	28	56.0	17	36.2	22	52.4	19	54.3
High	15	30.0	28	59.6	10	23.8	3	8.6
Total	50	100.0	47	100.0	42	100.0	35	100.0

Note. From Chappel (1977).

United Kingdom

Aptitude selection requirements for the Women's Royal Army Corps (WRAC) are quite stringent, permitting only 60 percent of the applicants to qualify for enlistment. Despite such screening, the 1972 attrition rate in the 6-week basic training course was unacceptably high at 16 percent. For this reason a study was launched to determine why women leave the Army so soon after enlisting (Keenan, 1976). The ultimate goal of the research was to improve selection by filtering out those with a high probability of early discharge.

First, Keenan used a standardized interview to collect information to compare those who leave the WRAC during basic training to those who graduate. The 216 service women in the sample were questioned regarding (1) motivation for enlisting and (2) influential people's attitudes toward the decision to enlist. The major finding was that those who left the WRAC early gave fewer career-type responses than those who graduated. The former group also mentioned that parents or boyfriends did not approve of their decision to enlist.

Second, a questionnaire based on the responses given in the earlier interviews was developed and given to 288 women at two points in time: (1) after only a few days at the WRAC Training Centre, and (2) immediately before departure. The hypotheses were (1) that the intention to complete training, measured 2 days after commencement of training, would be closely related to actual behavior, (2) that early discharges could be distinguished from graduates on the basis of the strength and subjective evaluation of beliefs about aspects of joining the WRAC, and (3) that approval or disapproval of significant others about the decision to join the WRAC, weighted by "motivation to comply," would discriminate between those who stayed and those who left. The first hypothesis was strongly supported by the .68 correlation

between intent to stay and later behavior. The findings further indicated that graduates had more positive attitudes toward all of the aspects of joining the WRAC than did the disengagees. Five of the 13 differences were significant at the .01 or .001 level. The influence of the opinions of relevant other people was less effective in differentiating between the two groups, but the attitudes of parents did have an important impact on those who graduated.

Based on the results of the study, a pilot project was conducted in 1974. Interested women were sent to the Selection Centre for 1 1/2 days of preenlistment tests and interviews. Out of this group, 13 percent decided not to enlist, thus reducing the attrition rate during basic training from 16 percent to 3 percent. Moreover, because of a deferred assignment policy that also was tried during the pilot study, the allocation of women to subsequent job training was greatly improved. Keenan reported that a revised questionnaire has been developed and is being given to all WRAC applicants. An evaluation will be conducted later to ensure the instrument's continuing effectiveness in reducing attrition.

United States

Army

The Army provided several studies concerning the retention of women. In the first study, Katz (1962) viewed the attrition problem as a manifestation of individual unsuitability for service in the Army. He developed a 20-item personality checklist and administered it to 197 female recruits. The focus of the questions was previous experience in getting along with others and in complying with rules in school or on a civilian job. Responses were later compared to peer and cadre evaluations of adjustment to Army basic training. The findings indicated that the checklist did not adequately identify women who were unsuitable for service.

A second study resulted from a request by the Director of the Women's Army Corps (WAC) in 1967 for an investigation of female attrition in basic training. Although the overall discharge rate of the WAC was no greater than those of the other women's military services, separations for "apathy" were of particular concern. Army researchers decided that, first, a determination had to be made of whether discharges were related to conditions that existed before enlistment or that were encountered in basic training.

Between April and September of 1968, women who were about to be separated and women performing satisfactorily in the same platoons were interviewed individually (Seeley, 1970). The 107 imminent discharges and the 96 controls were asked 21 questions. Seeley reported that several of the background questions yielded significantly different distributions of responses for the two groups. Although no difference was found in the number of high school extracurricular activities, the controls had joined more academic interest clubs than the discharge group. Moreover, similar proportions of both groups held post-high school jobs, but more of the controls worked in offices or factories and more of the discharges worked in restaurants or hospitals. The controls also responded with more "good, sound"

reasons for enlisting in the WAC than did those in the discharge group and reported that fewer adverse changes had occurred at home since their enlistment. Analysis of the military questions revealed that the controls responded more favorably to Army housekeeping duties, to their officers, and to other recruits. In comparison to the graduating group, those getting out had less fun during basic training, talked to a female recruiter for a shorter period before enlisting, and felt the Army was worse than they had expected. Both groups expressed favorable attitudes toward their instructors and the classroom work and disliked the same things about the Army (e.g., food, lack of free time, lack of sleep, restrictions, and the harassment). Seeley concluded that, while the negative feelings of those about to be separated may have influenced their responses, conditions in basic training that were viewed unfavorably by both groups warrant attention.

Another Army study (Plog & Kahn, 1974) investigated reasons why WAC personnel reenlist or choose to leave the service. In 1973, 94 women nearing the end of their term of service were interviewed. When asked about their plans, 36 percent said they would reenlist, 47 percent said they were getting out, and 17 percent were undecided. The number reenlisting is higher than usually reported because 23 percent of the women in the sample were in their second, third, or fourth enlistment.

Reasons for reenlisting fell into three broad categories. The strongest motivating factor was the Army's reenlistment benefits; namely, the cash bonus given for reenlisting, the opportunity to change one's duty station, and the possibility of being promoted. Other factors mentioned were satisfaction with the current work assignment and the opportunity reenlistees are given to change to another Military Occupational Specialty (MOS). Those who planned to leave were also questioned about their motives, and 75 percent of the respondents said they were becoming civilians to go to college using their veterans' benefits. Other reasons for leaving were dissatisfaction with current MOS and job, dislike of military discipline and inspections, disappointment in the lowered standards of the modern volunteer Army, and a desire to function autonomously. WAC company commanders' perceptions of why enlisted women fail to reenlist differed somewhat, and included conditions such as poor food and quarters, harassment, job dissatisfaction, night duty and long hours, lack of privacy, and the WAC's poor image among civilians. Additionally, the officers felt that women leave to become homemakers or college students, or because they are not going to be promoted. Plog and Kahn concluded that women both reenlist in the WAC and leave it for the same pragmatic reason: to further their job skills. Despite the fact that veterans' benefits appear to be operating against the retention of enlisted personnel, the Army has a vast need for single-term, noncareer personnel.

Navy

USN research studies that have investigated the problem of high female attrition have presented different results, probably reflecting the times in which they were conducted. Horn (1965) observed that the reasons for discharging men and women differed and that women rarely present serious disciplinary problems. He surveyed 109 first-term enlistees who were nearing their reenlistment decision: 72 stated they were not planning to stay in the Navy, 31 were undecided, and 6 were reenlisting. The three most important reasons for leaving the military were marriage, insufficient earnings, and college, in that order. Horn concluded that:

Women are usually directed toward a well defined feminine role . . . It is inevitable that heavy losses of first-term enlistees occur in the Navy. The major reasons for turnover--marriages, pregnancy, unsuitability--bear this out. Although women deviate from the usual feminine pursuits by enlisting in the Navy their deviation seems to be of short duration . . . The fact that only 6 women from a sample of 109 stated their intention to reenlist indicates that the disadvantages of service life overwhelmingly overcome the advantages. (pp. 34-35)

Horn recommended raising the minimum age for the enlistment of women to give them more time to mature. Such a step, he said, would lead to a more successful adjustment to military life and would lower the number of discharges for marriage.

Webster and Booth (1976), researchers from the Bureau of Medicine and Surgery, focused their investigation of attrition on Hospital Corpsmen (HMs) and Dental Technicians (DTs). They questioned whether women and men entering these ratings differed on aptitude, personality, and background variables and compared the success rates of the two sexes. In 1973, a background questionnaire and the Comrey Personality Scales were administered to 3,301 entering HM students (2,747 males and 554 females) and 952 DT students (801 males and 151 females). These samples were followed until maturation of the criterion of success, defined as completing training and working as a paramedic for one year. Significant differences between men and women were reported on 10 of the 14 background variables and on more than half of the personality scales. Women were better educated, were more sure of their choice of the paramedic field, and had experienced fewer disciplinary problems during adolescence. Scores on the Comrey scales revealed that the women were more trustful, orderly, conforming, emotionally stable, and empathetic than the men. Stereotypic differences in aptitude scores were found; that is, women scored higher on the verbal and clerical tests and men scored higher on the arithmetic and mechanical tests. No significant differences were found between the number of men and women completing training or remaining on active duty 1 year later. However, women who were disenrolled during training had significantly higher survival rates in the Navy than men. The authors concluded that the low attrition rate of women which is contrary to previous studies, may reflect the change in female discharge policy that occurred in late 1972. They also hypothesized (1) that the paramedic specialities are congruent with women's traditional role and (2) that changing values enhance the military as an occupational choice for women with a contemporary role ideology. Therefore, it may be that the Navy paramedic specialities have something for traditionalists and feminists alike.

Thomas (Note 1) compared attrition data 12 months after enlistment for 1,000 female and male cohorts entering the Navy in 1975. Table 2 indicates that, while the sexes' attrition rates were similar, honorable discharges were given to 85 percent of the women and only 38 percent of the men. Unsuitability, the most common reason for discharge, includes character and personality disorders, apathy, unsanitary habits, and inaptitude. Exit questionnaires, completed by 58 percent of the women who left after basic

training, provided some information about the factors leading to their discharges. Job factors that contributed to dissatisfaction revolved around underutilization. Over 50 percent of the women indicated that their assignments were unsuitable, that they disliked their work, and that their jobs were not challenging enough. Personal sources of dissatisfaction mentioned by over half of the sample were the lack of respect for supervisors, the regulation of their lives, and the lack of privacy.

Table 2

Separation Data for Females and Males Leaving Navy
During First Year of Enlistment

Item	Percentage	
	Female (N=159)	Male (N=145)
<u>Discharge Rates</u>	16	14
<u>Type of Discharge</u>		
Honorable	85	38
General	10	49
Undesirable	0	5
Released to Inactive Duty	5	6
Declared Deserter	0	1
Died	0	1
Total	100	100
<u>Reason for Discharge</u>		
Unsuitable	53	62
Pregnancy	30	0
Convenience of government, enlisted in error	9	6
Physical disability, died	4	12
Misconduct, deserted	0	10
Good of service, fraudulent entry	0	5
Other reasons	1	3
Unknown	3	2
Total	100	100

Summary

The problem of high female attrition in the military is universal. Research has investigated individual factors, with the ultimate goal of developing screening instruments to prevent the entry of high-risk women; and institutional factors that are usually blamed for the dissatisfaction of military personnel. Although Horn (1965) observed that being a female and being in the military may not be compatible, none of the studies in the present review tested this valid hypothesis. Studying the individual and the institution without analyzing their interaction limits the knowledge that can be gained.

Recently published statistics for female and male cohorts in the United States military suggest that the attrition problem may not be as acute as it has been perceived. Table 3 indicates that, with the exception of the Marines, women have a retention rate as high as that of men, even though many continue to leave because of the responsibilities of marriage and motherhood (Office of the Assistant Secretary of Defense, 1977).

Table 3

Number of Fiscal Year 1971 to Fiscal Year 1975 Accessions
Remaining on Active Duty (AD) as of 30 June 1976
By Sex and Service

Branch of Service	Male		Female	
	Accessions	Percent on AD 6/76	Accessions	Percent on AD 6/76
Fiscal Year 1971 ^a				
Army	293,345	14.1	5,600	22.7
Navy	73,748	21.4	2,377	19.1
Marines	51,882	19.0	714	24.9
Air Force	89,582	25.0	4,383	24.6
DOD	508,557	17.6	13,074	22.8
Fiscal Year 1973 ^a				
Army	194,706	26.3	8,336	34.6
Navy	88,665	43.0	4,949	45.7
Marines	48,255	41.1	691	23.3
Air Force	85,612	55.4	6,339	54.5
DOD	417,238	37.5	20,315	43.1
Fiscal Year 1975				
Army	161,759	72.1	18,540	73.9
Navy	89,433	75.7	6,459	79.3
Marines	54,081	73.3	1,325	65.4
Air Force	63,486	80.7	9,752	79.0
DOD	368,759	74.6	36,076	75.9

Note. From MARDAC Report Number 3058, "Separation Rates from Service for Accession Cohorts by Length of Service, Sex, and Race."

^aSome of the Army's male accessions were draftees and all services had male draft-induced volunteers.

ATTITUDES IMPINGING ON THE ASSIGNMENT OF WOMEN

Women who choose to work in an occupation that traditionally has been peopled by men often have to contend with the negative responses of others. First, the attitudes of males who have difficulty seeing a woman as just another soldier, sailor, or airman can hinder her job performance. Second, the attitudes of family members, friends, and new acquaintances, many of whom have formed stereotypic images of women who affiliate with the military, can affect the servicewoman's self-image. Finally, a woman has to cope with her own beliefs. MGEN Jeanne Holm, USAF (Ret), in deploring the fact that military women have fallen into the same patterns of employment that prevail in the civilian world, recognized this self-conflict and said, "Part of the problem is that women themselves must recognize and overcome their own prejudices. To overcome them will require a major redirection in the way we train our young" (Tamplin, 1974, p. 41).

Because the expanding role of women in the military is so closely allied with social and legal changes occurring in society at large, the opinions of others can have a strong influence on female military careers. Within the United States, for example, the current issue revolves around assigning women to combat. Attitudes of military personnel and other citizens have been and are being measured to explore the acceptance or rejection of women in combat roles. Thus, in a very potent sense, "the will of the People" affects whether or not women will be trained and permitted to perform jobs on ships, in aircraft, and in the infantry.

United States²

Men's and women's attitudes toward greater female participation in national defense were investigated by King in 1973. Her sample of 318 included high school and college students and members of the Army General Staff, Reserve Officer Training Corps, Special Forces, and the Defense Advisory Committee on Women in the Services. The survey questioned women's inclusion in compulsory military service, flying billets, all Navy ratings, combat activities, and service academies. A majority of both sexes were in favor of women participating in all these facets of military life. Women endorsed a more equalitarian role in higher proportion than men except for the draft, where 65 percent of the females and 73 percent of the males favored equal responsibility. King concluded that the policy lag revealed by these data would have a detrimental effect on recruiting and retention.

The Army and Navy have demonstrated considerable concern over their personnel's opinions concerning the assignment of women to billets that might become involved with enemy action. Segal, Kinzer, and Woelfel (1977) discussed three surveys that tapped the attitudes of civilians and Army personnel on this topic. In a 1973 survey of 576 Detroit adults, 74 percent agreed with the statement, "If anyone should bear arms, it should be men rather than women." In a 1974 survey of 724 male and female Army personnel, 48 percent

²Due to the lack of research reported by other members of The Technical Cooperation Program, this section reviews only United States' efforts.

said that women would not make good front-line combat soldiers even if properly trained, and 75 percent said that women should not be assigned to the infantry. Later that year, the Army asked a representative sample of 12,564 personnel, "Would you feel as secure in combat with a female commander as you would with a male commander provided both have equal qualifications?" Over half of the sample answered "No." The authors concluded that, while social change is moving in the direction of gender equality, there does not seem to be majority support for the assignment of women to combat.

The first of several Navy surveys on combat assignments for women was conducted in 1972. Fuller (1973a) surveyed representative samples of male officers and enlisted men along with supplementary samples of females regarding (1) the conscription of women and (2) women's ability to perform on combatant ships. Table 4 presents the distributions of responses. Enlisted women were not in favor of drafting women but half of each of the other three groups supported equal treatment of the sexes in this area. The samples were almost equally split on whether or not women should bear arms. The last question, which is more relevant to Navy functions, shows greater acceptance of women in a combat role. Thomas (Note 3) presented the results of two additional surveys of Navy personnel concerning whether or not men would want to serve with women in combat. The 1973 sampling of 860 men in the fleet showed 62 percent in favor of such an arrangement. However, 888 Navy recruits questioned in 1975 expressed a very different attitude in that 75 percent would not want to fight alongside a woman. This finding was contrary to expectations, since contemporary young people are believed to be less tied to conventional sex roles than are more mature adults. However, the older fleet sample probably had a more realistic impression of what combat in the Navy entails and apparently had more faith in women's ability to perform effectively in combat. In 1976, 400 active duty Navy women were asked if they thought that women should go into combat. Only 31 percent said "No."

The Navy has periodically questioned its personnel on the possible assignment of women to ships, which is currently prohibited by law. Shortly after ADM Elmo Zumwalt, then Chief of Naval Operations, initiated a pilot women-at-sea program in 1972, interest in the topic ran high. Fuller (1973a) conducted a survey that contained many items concerning beliefs about what women could and should do in the sea-going Navy. Table 5 contains selected items from this survey and the distributions of responses for a representative sample of males and a supplementary sample of females. Responses to the first item support the contention that Navy men prefer to work with other men. Women showed no parallel preference for their own sex. Analysis of item 3 resulted in an unexpected finding: While it might be anticipated that Navy men hold a common stereotype of women as being too emotional for a command role, it is surprising to find that more women agreed than disagreed with this image. Fuller (1973b) concluded that those who held positive opinions about the ability of women to perform effectively aboard ships were most likely to support their assignment to sea duty. In 1975, when male attitudes on sea duty for women were again measured, 75 percent of the recruits questioned ($N = 888$) said they would want to work with women aboard a ship (Thomas, Note 3).

Table 4

Responses of Navy Personnel to Questions Regarding
Possible Use of Women in Combat

Question	Response (Percent of Sample)			
	Female Officer (N=185)	Male Officer (N=475)	Female Enlisted (N=218)	Male Enlisted (N=452)
1. If the draft were to continue, women as well as men should be subject to the draft.				
Agree	52	51	35	49
Neither agree nor disagree	15	10	14	9
Disagree	33	39	51	42
Total	100	100	100	100
2. If the equal rights for women amendment is ratified and women become subject to the draft, women should not be required to bear arms in combat.				
Agree	36	41	30	40
Neither agree nor disagree	19	15	25	16
Disagree	45	44	45	44
Total	100	100	100	100
3. It would be dangerous to have women aboard combatant ships at sea because they would be in the way.				
Agree	11	22	18	30
Neither agree nor disagree	12	21	30	21
Disagree	77	57	52	49
Total	100	100	100	100

Note. From Fuller (1973a).

Table 5

Opinions of Navy Personnel About Possible
Assignment of Women to Sea Duty

Question	Response (Percent of Sample)			
	Female Officer (N=185)	Male Officer (N=475)	Female Enlisted (N=218)	Male Enlisted (N=452)
1. At sea, I would prefer working with:				
Men	30	67	37	53
Women	2	2	6	10
No preference	68	32	57	37
Total	100	101	100	100
2. Given proper training women could work at sea as well as men.				
Agree	66	48	61	58
Neither agree nor disagree	18	11	17	10
Disagree	16	41	22	32
Total	100	100	100	100
3. Women officers are temperamentally suited for command at sea.				
Agree	24	17	15	12
Neither agree nor disagree	45	31	48	40
Disagree	31	52	37	48
Total	100	100	100	100
4. In your opinion, should Navy women serve on board Navy ships at sea?				
Yes, with no restrictions	20	17	21	29
Yes, with restrictions	68	59	56	52
No	12	24	23	19
Total	100	100	100	100
5. If women were on board ships at sea, men could not perform their jobs as well.				
Agree	12	27	21	27
Neither agree nor disagree	21	19	25	21
Disagree	67	55	54	53
Total	100	101	100	101

Note. From Fuller (1973a).

Active duty women surveyed in 1976 (Thomas & Durning, Note 2) were not as favorably disposed to the possibility of being assigned to ships. Although 80 percent agreed that women should be allowed to go to sea, 57 percent stated that they did not want to serve aboard ship and 32 percent were so opposed to shipboard assignments that they said they would try to get out of the Navy if the law were changed to permit women at sea. Two additional surveys were sponsored by the Navy in 1976 regarding this topic (Grace, Steiner, & Holter, 1976; Thomas & Durning, Note 2). In both cases, the respondents were wives of military personnel. Slightly over half (combined $N = 747$) had no objections to their husbands serving with women at sea. However, 11 percent of one group and 36 percent of the other (30% overall) were so opposed to such assignments that they said they would urge their husbands not to reenlist if the law were so changed.

The Army has also questioned whether or not women would be accepted into traditionally male occupational specialties. In 1974, male and female soldiers were asked to judge whether certain Army jobs were appropriate for women. Table 6 shows the distribution of responses to this question. The results indicate that women, to a greater extent than men, believe that women are able to play an active and extensive role in today's Army. This attitude was particularly true of female officers. Savell, Woelfel, and Collins (1975) concluded that "Women are likely to be available as candidates for a wide range of noncombat occupations, and male resistance to having women in these positions is likely to be minimal" (p. 8).

A second topic that has enjoyed recent popularity in personnel surveys is sex role stereotypes. The design used by Army and Navy research psychologists to study role affiliation was very similar, allowing some interesting comparisons. In 1974, 721 Army personnel were given two descriptions of appropriate roles for men and women and were asked to indicate to which of these roles they and certain others would subscribe. The descriptions were as follows:

1. Under ordinary circumstances, women belong in the home, caring for children and carrying out domestic duties; whereas men should be responsible for financial support of the family.

2. Relationships between men and women are ideally equal and husbands and wives should share domestic, childrearing, and financial responsibilities (Savell & Collins, 1975).

Table 6
Percentage of Respondents Perceiving Jobs as Appropriate
For Women, Overall and by Sex and Rank

Job	Overall (N=721)	Officers		Enlisted	
		Men (N=290)	Women (N=111)	Men (N=250)	Women (N=70)
Cook	98	99	98	98	96
Social Worker	98	99	100	96	97
Human Relations Officer	97	98	100	96	97
Lawyer	96	97	99	93	96
Band Leader	96	98	95	94	97
Statistician ^a	95	97	95	94	86
General's Aide	91	91	93	91	90
Radar Technician	90	93	98	86	81
Bartender ^a	86	90	82	85	73
Butcher ^a	83	88	80	83	70
Truck Driver	82	84	86	78	81
Navigator	82	84	88	76	83
Janitor	81	88	82	74	69
Parachute Rigger	80	86	82	74	70
Plumber	77	81	86	67	73
Welder	76	82	81	70	64
Ammunition Supply Person	75	81	79	71	66
Company Commander in a Mixed-sex Company ^a	74	69	85	74	81
Diesel Mechanic	69	73	81	58	63
MP Guard Duty ^b	69	69	78	66	74
Helicopter Pilot ^b	66	63	83	60	69
Jet Pilot ^b	60	55	75	52	67
Bomb Disposal Specialist ^b	55	56	74	45	56
Rifle-carrying Infantry Foot Soldier ^b	28	23	49	25	33

Note. From Savell, Woelfel, and Collins (1975).

^aSignificantly ($p < .01$) more men than women viewed job as appropriate for women.

^bSignificantly ($p < .01$) more women than men viewed job as appropriate for women.

In 1976, the Navy asked samples of active duty women and military wives to indicate sex role affiliations for themselves and for men and women in the Navy, using paraphrased versions of the Army statements (Thomas & Durning, Note 2). Table 7 presents the results of the Army and Navy surveys. The two images emerging most clearly from these data were (1) that military women are viewed as contemporary in their role affiliation and (2) that military men are viewed as traditional. Interestingly, Army women were in agreement with their image among others, whereas Navy women viewed themselves as considerably less contemporary than others saw them. Army men considered themselves contemporary, but viewed other men in the Army as traditional. To better understand men's attitudes toward women in new roles, Army researchers (Segal & Woelfel, 1976) questioned their sample on the amount of interaction they had experienced with working women. Items included length of mother's employment, exposure to female supervisors, number of close female friends in the Army, and frequency of working with Army women. Responses to all of the items except mother's employment were significantly related to a contemporary/traditional orientation toward a woman's role.

Table 7

The Attribution of Contemporary (Rather than Traditional) Sex-Role Attitudes to Active Duty Women and Men and to Self

Referent	Response (Percent of Sample)			
	Army ^a		Navy ^b	
	Men (N=540)	Women (N=181)	Women (N=76)	Wives (N=141)
Active Duty Women	83	84	90	86
Active Duty Men	31	22	30	29
Self	66	90	64	52

^aFrom Savell and Collins (1975).

^bFrom Thomas and Durning (Note 2).

Another form of stereotyping is the attribution of certain traits to men and women by virtue of their gender. Among the changes that are occurring in modern society is a waning of the belief in biologically determined, sex-linked characteristics. Instead, more credence is being placed in an environmental etiology of these traits, and many parents and educators are attempting to deemphasize sex-appropriate behavior in the young. As part of a project to anticipate societal trends that have a potential impact on the military structure, the Navy administers a topical survey each year to its

incoming recruits. In 1975, items concerning male/female traits and appropriate jobs for women were added to the survey. The first administration of these items revealed that male recruits believed women, as compared to men, to be more sickly, emotional, and easily influenced and less logical, decisive, stable, coordinated, and possessed of leadership ability (Thomas, Note 3). The 1976 administration of the instrument resulted in 20 significant differences in the way the recruits responded to the 33 items. All but three of these changes were in the direction of more sexist, biased attitudes toward women. One shift toward greater sexual equality occurred on an item dealing with males: The statement, "Men should be free to cry when they feel sad" was endorsed by significantly more recruits in 1976 than in 1975. The other two items concerned the abilities of female mechanics and the likelihood that a woman would lose her head in a crisis.

The Navy has attempted to improve its understanding of the linkage between (1) stereotypic attitudes toward the expanding role of women and (2) the characteristics of respondents. A 2 x 2 x 2 analysis of variance technique was used to examine the effects of race, sex, and military status on responses to items dealing with subjective feelings of discrimination in the Navy and with judgments of the differential abilities of men and women (Fuller, 1973b). Fuller hypothesized that:

1. Prejudicial, stereotyped attitudes toward women would occur most frequently within the male group and least frequently within the female group, with white men reporting the most prejudiced attitudes and black women the least.
2. White men who indicate they hold prejudiced attitudes toward minorities were expected to report prejudicial attitudes toward women.
3. A negative correlation was predicted between prejudice toward women (and toward minorities) and amount of education. (pp. 11-12)

Fuller analyzed three questions concerning women's command ability, electronic/mechanical ability, and clerical/administrative ability. Table 8 summarizes the findings of the analysis of variance. The results support Hypothesis 1 in part: Males reported being most prejudiced but white women, not black women, were the least prejudiced. In support of Hypothesis 2, 38 percent of the white men who indicated prejudiced attitudes toward minorities also were prejudiced against women. Hypothesis 3, which concerned the negative relationship between amount of education and attitudes toward women and minorities, held up for male officers only. Fuller concluded by stating,

It would be useful to determine to what extent the capabilities of women are viewed with reference to training and background. The judgments reported here reflect opinions of women's abilities relative to men. While men and women tend to see men as more capable in electronic/mechanical ability and the ability to command, this does not mean that women are viewed as incapable in these areas. (p. 36)

Table 8

Interaction of Race, Sex, and Military Status
with Belief in Ability of Navy Women

Ability	Source of Variance					
	Race	Sex	Status	Race x Sex	Race x Status	Sex x Status
Command	N.S.	**	N.S.	**	N.S.	N.S.
Electronic/Mechanical	N.S.	**	**	N.S.	N.S.	N.S.
Clerical/Administrative	**	N.S.	N.S.	*	**	**

Note. Compiled from a series of tables included in Fuller (1973b).

* $p < .05$

** $p < .01$

Perhaps the most prevalent bias endured by military women is the belief that they have low sexual morals. Treadwell (1954) noted that, despite the experiences of the British women's services in two world wars, it had been hoped that the WAAC's excellent record during their first year would forestall the spread of slander in the United States.

The WAAC rate of venereal disease was almost zero; many WAAC units had not experienced a single case . . . As for pregnancy among unmarried women, the rate in the WAAC was about one-fifth that among women in civilian life. (p. 193)

However, the innuendos and obscene stories about the WAAC became so vicious in 1943 that the Army, suspecting that Axis propaganda experts were the fomenters, asked the Federal Bureau of Investigation to search out the causes. Even today this image problem is a source of frustration for military women. After interviewing 94 WAC who were not reenlisting, Plog and Kahn (1974) reported that 72 percent felt that the WAC had a poor image among civilians and male Army personnel and only 22 percent thought the corps had a good image. Many of them expressed resentment over having to live down an undesirable image that was not of their making and said they had grown weary of defending their own reputations and those of other Army women. In a 1976 survey of 80 Navy enlisted women, only 18 percent agreed with the statement, "Among civilians, the image of a female in the military services is favorable." However, this group apparently was able to overcome any personal difficulty posed by this negative attitude because 77 percent endorsed the statement, "Being in the Navy gives me pride and feelings of self-worth" (Thomas & Durning, Note 2).

Summary

Within the United States, the evolving status of military women has received considerable attention in personnel surveys. Such surveys allow an assessment of new policies and a prediction of resistance to further change. The findings revealed that, while military men are perceived as being very traditional, the majority are in favor of many nontraditional assignments for women--short of combat. The possibility of women in combat billets, however, still is not acceptable to the majority of men or women in the United States. Unfortunately, no data were available from the other TTCP countries on this issue that, more than any other, defines and limits how women will be utilized in the armed forces.

INTERPERSONAL FACTORS

A deeply entrenched masculine orientation permeates the military services. While the socialization of male children does not necessarily prepare them for an active role in the armed forces, the rearing of female children is often in direct conflict with such a role.

Psychological theories of vocational choice generally hypothesize a perceived compatibility between the individual and his chosen vocation. Thus, men volunteering for service during periods of nonconscription are receptive to military values and the masculine milieu. Female volunteers, while also self-selected, often have difficulty relating to their peers unless they remain in roles traditionally associated with women in society. Indeed, filling such support roles was the original intent of a women's auxiliary to the military.

Interpersonal relationships with supervisors pose a very difficult problem for women:

Investigations by BUPERS (Bureau of Naval Personnel) into reports of poor job performance have, in most cases, concluded that it was often the direct result of bias or poor attitude toward enlisted women by the line supervisor, department head, or commanding officer. (Fanelli, 1976, p. 4)

Even well-meaning superiors may hold preconceptions about what women can and ought to do and may assign jobs or make training opportunities available accordingly. Others resent the intrusion of females into "their" service or feel threatened by the feminist movement; sexual equality tears at the very fabric of military life, where ultimate decision-making power still resides in male hands and where most wives have accepted secondary status to the man and his career.

Wives, however, probably present the most difficult interpersonal problem for the military woman because of the lack of direct contact. While it is not axiomatic that friction should occur between wives and the women working with their husbands, problems seem to be more prevalent in formerly all-male occupations. In the past few years, wives of firefighters, police officers, and merchant mariners have voiced their opposition to the sexual integration of their husbands' professions by marching on city hall, forming action-oriented groups, and participating in letter-writing campaigns. Even the U.S. Navy briefly experienced wives' resistance when the crew of USS SANCTUARY (AH 17) included women.

United States³

Plog and Kahn (1974), whose findings were discussed in the section on attrition, touched on several areas of interpersonal relations in their interviews of 94 WACs. The authors were struck by the respondents' preference for being the only woman within a work group, which was explained as a dislike

³Due to the lack of research reported by other members of The Technical Cooperation Program, this section reviews only United States efforts.

for the kind of person who joins the WAC. Contemporary enlistees were particular targets of disapproval for being undisciplined, disrespectful, uncommitted, and lacking in concern for military tradition. The respondents also said they did not want to supervise others, despite their recognition that future promotions would require them to do so. They based their reluctance on the belief that men would not accept supervision from women and on their own lack of interest in being supervisors.

The first of several Navy investigations of interpersonal relationships among female and male personnel focused on responses to the Human Resources Management Survey (HRMS) (Durning & Mumford, 1976). An analysis of variance technique was used to test for the main effects of sex and pay grade on perceptions of the Navy organization. Seven of the 24 indices in the HRMS are concerned with interactions on the job; namely, supervisory support, supervisory work facilitation, peer support, peer teamwork, peer work facilitation, peer problem solving, and work group coordination. The data that were analyzed were collected between February 1974 and October 1975 and included 1,960 women and 22,073 men. Durning and Mumford found a significant (.05 level) sex by pay grade interaction on 5 of the 7 indices. The typical pattern is illustrated in Figure 1.

Durning (Note 4) subsequently developed and administered a special survey to gain more understanding of the peer difficulties that Navy women experience. She hypothesized that the stress that accompanied advancement resulted either (1) from being isolated from other women or (2) from peer conflict due to nontraditional work roles. Thus, in the analyses, the 282 respondents were divided into four subgroups, representing solo versus nonsolo status in the work group and traditional versus nontraditional job assignments. Durning concluded that:

It is the NTR (Nontraditional Rating), the woman doing a "man's job," who is resented whether or not she is a solo woman. She is more likely to experience discrimination. She has more dissatisfaction with her supervisor and her progress in the Navy, but gets greater self-esteem from her work than the woman in the traditional job . . . While she is more willing to shoulder full responsibility (i.e., to go to sea and to risk combat), she is less likely to be content in the Navy with its current limitations. (p. 13)

Support for Durning's theory that women in nontraditional jobs are less content than those in traditional jobs is found in the 1977 background study by the Office of the Assistant Secretary of Defense. Table 9, which was excerpted from the 3-year data in that report, shows very different attrition rates for women in the different occupational groups and between women and men within groups. The nontraditional fields of electrical repair, maintenance, and crafts lost about one-fourth of the females so assigned, either due to attrition or to cross-training to another occupation. The traditional fields of communication/intelligence, medical/dental, and administration, to which almost 80 percent of American military women are assigned, had much lower attrition rates.

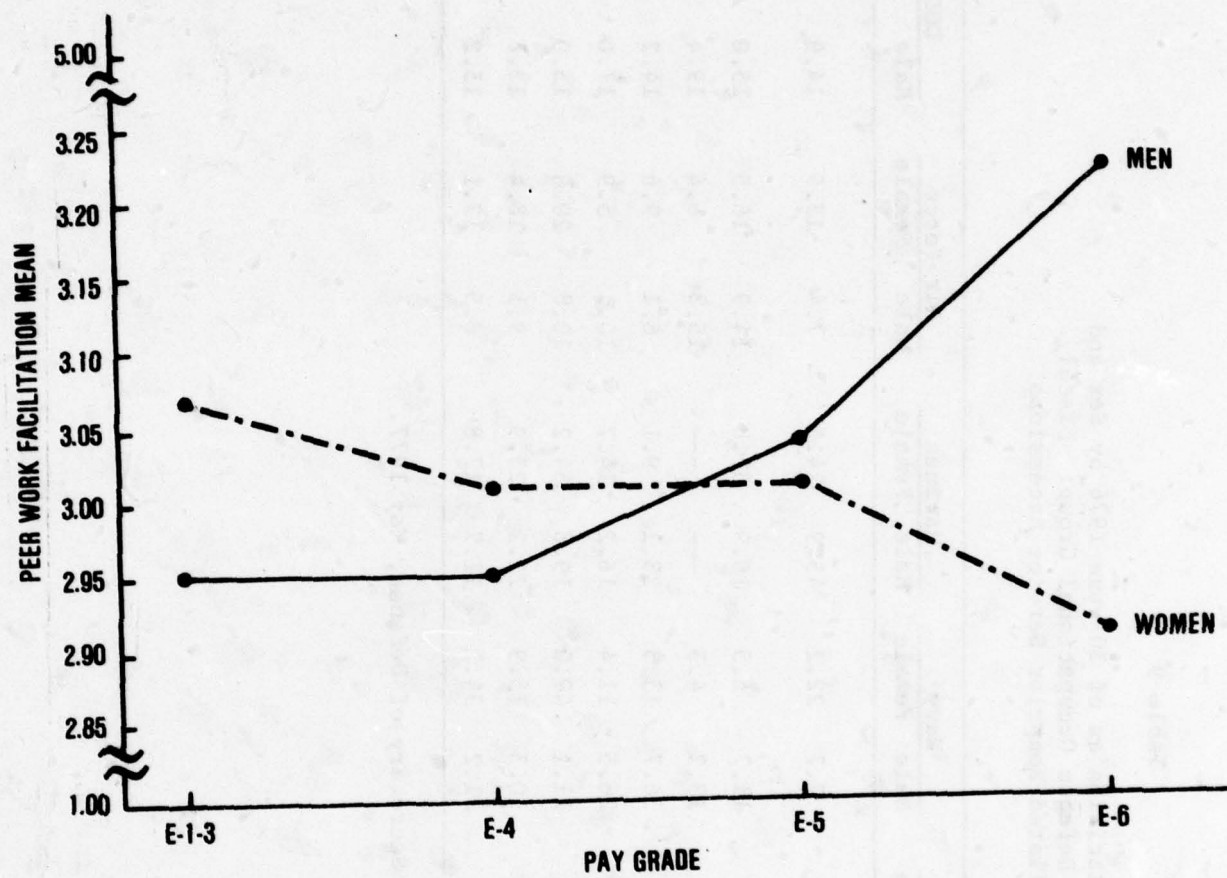


Figure 1. Sex by pay grade interaction, peer work facilitation index.

Table 9

Percentage of Attrition as of 30 June 1976 by Sex and
Department of Defense Occupational Group: Fiscal
Year 1975 Enlisted Nonprior Service Accessions

Occupational Group	Army		Navy		Marines		Air Force		DOD	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Electronic Equipment Repair	25.6	38.1	7.7	22.2	43.9	24.5	7.4	13.9	14.9	23.4
Communications/ Intelligence	16.3	8.8	11.7	6.5	16.9	32.8	14.9	16.5	15.0	9.7
Medical/Dental	21.5	6.2	13.3	4.3	---	---	15.3	6.4	19.4	6.0
Technical	14.9	14.2	36.7	13.3	23.1	9.1	6.1	9.6	14.2	12.5
Administration	18.7	9.2	26.5	11.4	16.2	14.7	10.1	5.9	17.0	8.8
Maintenance	19.3	38.4	11.1	49.0	19.8	54.2	10.8	20.6	15.0	31.1
Crafts	18.4	35.2	10.3	75.9	21.2	25.9	9.1	18.4	13.8	27.5
Services/Supply	18.1	15.7	31.2	34.1	11.7	17.8	8.5	13.1	15.2	16.1

Note. From Office of the Assistant Secretary of Defense, May 1977.

A series of case history studies conducted at newly integrated Navy commands included an investigation of interpersonal factors (Thomas, Note 3). The initial reaction of male peers to the first wave of women was described as traditionally sexist; that is, the men whistled, stared, and made pointed comments. When the women demonstrated their refusal to be viewed solely as sex objects, the interaction typically changed to competition. In one command the women were determined to demonstrate their capability and were supported by supervisors in meeting the challenge. Soon the methods that the females developed to compensate for their limited strength were adopted by the males, and morale and productivity increased. At another command the rising competition between the sexes was thwarted by unequal job assignments. After-hours watches were considered too dangerous for women and much of the work was judged too hazardous. Males soon were grumbling about their extra duties and females were resentful of being given special treatment.

Several patterns of behavior among enlisted supervisors were identified: One was a paternalistic, keep-them-from-harm attitude. Another was the viewpoint, with its attendant laissez-faire practices, that women in men's jobs are a temporary phenomenon. Usually, however, the most difficult situation arose when a supervisor ignored the real differences between the sexes and gave an unsatisfactory rating to the women who could not perform physically demanding tasks. Thomas (Note 3) formulated the following description of a good male supervisor:

(He) realizes that fairness is more important than equality when dealing with a wide range of human abilities. He uses the chain of command and resists the convenience of utilizing a senior woman as an informal ombudsman. Most important, he recognizes that good leadership and management practices apply to women as well as to men. (p. 18)

The Navy's most significant experiment to date in sexual integration was SANCTUARY's experience. In August 1972, ADM Elmo Zumwalt, then Chief of Naval Operations, promulgated Z-Gram 116. In addition to making several other changes in the status of women, this policy statement established a pilot program aboard SANCTUARY for evaluating the utilization of women at sea, and immediately assigned a limited number of female officers and enlisted personnel to the crew. At the end of the first year, SANCTUARY's Commanding Officer evaluated the experience (Note 6). The enlisted men favored having women aboard because it provided a more normal social environment, but the officers felt that there was a greater tendency for the crew to congregate on the job and that less work was being accomplished. The public display of affection, judged detrimental to good order and discipline, was made a violation after the problem arose on a 12-day sea period. Also, the presence of women in the crew appeared to have made the role of the petty officer more difficult: Some women who could not perform a difficult job would appeal for male sympathy. As a result, they were relieved of the responsibility and assigned a menial task, and a male (often the supervisor himself) had to complete the task. The Commanding Officer felt that this damaged the supervisor/worker relationship and thus could not be tolerated.

A team of naval engineers who sailed briefly on SANCTUARY to study habitability also commented on interpersonal relationships (Female Personnel Aboard Ship, 1974). They noted that the pronounced breach between hospital personnel and ship's company was not apparent among the female crew members, and they hypothesized that the different berthing arrangements for the sexes (men with their division, women all together) was responsible for this greater cohesiveness. The men enjoyed having women aboard and appeared not to resent the changes made in the female quarters (e.g., washer-dryers, full-length mirrors, personal bed linens), although some women felt guilty about their privileges. Morale among the females was high and the effect of common environmental hardships was minimal. The authors attributed this to the adventurous spirit of the young women and hypothesized that future crews of more mature women might be disturbed by the inconveniences of shipboard life.

It was during the woman-at-sea pilot program, which ended in early 1975 when SANCTUARY was decommissioned, that Navy wives first publicly expressed the fear that their marriages were threatened by the changing role of military women. These fears were gradually dissipated through a program of informative shipboard meetings with the wives, meetings which sometimes included the men's female co-workers. Thomas and Durning (Note 2) later investigated the perceptions that Navy women and wives have of each other. They reported that 64 percent of the enlisted women had experienced resentment from wives but that it probably was not based on jealousy: In a survey of 163 wives only a small group demonstrated negative attitudes toward military women. The wives' resentment was primarily over assignment policies, since two-thirds stated that the more desirable shore billets were being reserved for women. Table 10 reflects the generally tolerant attitude of the wives toward the changing role of women in the Navy. However, the authors cautioned that college graduates were overrepresented in the wives sample, a situation that would probably tend to bias the responses in favor of contemporary roles for women.

Summary

While women have been associated with the military for almost 100 years, only in the last decade has their presence caused serious concern. Previously, the familiar male-active/female-supportive roles were maintained in the work milieu and the jobs performed by women paralleled those of their civilian counterparts. Even during war, when extraordinary times called for extraordinary assignments, the sexes experienced very little role conflict. Men issued orders that were carried out by men of lower status or by women. Now, sex roles are being redefined in pragmatic and often innovative ways. In a structured institution such as the military, where work and social status are clearly delineated, the stress of such change should be minimal. However, as the U.S. Navy's experience has demonstrated, males who have never before supervised females performing traditionally masculine tasks waver between attitudes of sexual equality and protectiveness. In addition, women do not necessarily desire the new jobs being thrust upon them and sometimes revert to self-defeating stereotypic behaviors. Peer relationships become less satisfying for women as they advance in their career fields, and encounter role conflict and increased isolation. Occasionally, problems arise from wives' resistance to situations that could threaten the marital relationship. Although some of these interpersonal problems can be expected eventually to resolve themselves, it behooves the military services to apply to sexism some of the experience gained in combating racism.

Table 10
Attitudes of Navy Wives Toward Their Husbands'
Interactions with Military Women
(N=163)

Question: How would you feel if your husband . . . ?	Percentage		
	Fine	Dislike	Very Negative
Worked daily with women	76	13	2
Supervised several women	79	10	1
Worked for a female supervisor	61	18	5
Stood after-hours watch with women	51	37	4
Went on an unaccompanied tour with women	49	31	7
Was assigned to a ship with women	52	32	5

Note. From Thomas and Durning (Note 2).

UTILIZATION AND JOB PERFORMANCE

The utilization of women in the military services, as in all predominantly male occupations, has been profoundly affected by the women's movement and by civil rights legislation.⁴ Before the 70's, under peacetime conditions, relatively few job specialities were open to women. Such restrictions were not just based on beliefs regarding what jobs are socially appropriate for females, but were also intended to prevent the problems encountered when women are assigned to work that is normed for the average male physique. We now know that some of the anticipated problems were exaggerated; others, however, are based on real and measurable differences between the sexes. These real differences moderate the performance of women currently assigned to the newly integrated jobs and, ultimately, will determine how women shall be utilized in the future. Thus, the abilities and performance of females in physically demanding situations are being closely monitored. If the incumbents fail, then evidence will have been found for again restricting the jobs to males. If they succeed, then neutered qualifications that include a physical component will probably be established for many military billets.

Women's ability to withstand the stresses of war can be judged by the record of the 15,000 members of the WAC who served overseas during WWII. While they suffered the same number of casualties as men in noncombatant positions, their rates of psychological disorders and hospitalization were lower. Pregnancy was almost nonexistent; and the women's venereal disease rate was one-sixth that of Army men (Treadwell, 1954), compared to a frequency among civilian women that was 87-90 percent of that of civilian men during 1945.

United States

The admission of women to the officer training academies of all of the American services has provided military researchers with a unique, highly structured setting in which to make comparisons between the sexes. At the end of the first integrated plebe summer, which is a period of intense physical training and psychological adjustment for new cadets, an evaluation was conducted by Vitters and Kinzer (Note 5) at the United States Military Academy (USMA), West Point. It should be noted that the women in this study had been required to pass a physical aptitude test and were considered exceptionally fit, although the majority probably would have been unable to meet the physical criteria for male entrants. During the women's first week at the USMA it became apparent that certain modifications in rifle training would be needed. For example, because many of the females lacked the strength to come to inspection arms with the M14 rifle, the operating rod spring was shortened to make the exercise easier. They were also permitted to carry the lighter M16 rifle for marches, runs, and bayonet training. The summer's daily dropout rates indicated that the training was physically more demanding for women than for men. This rate ranged from 1 to 3 percent for males and from 4 to 36 percent for females. Since the USMA had anticipated that women would have difficulty in this respect, an optional program of exercise was offered. However, peer pressure prevented those who needed this option from

⁴Due to the lack of research reported by other members of The Technical Cooperation Program, this section reviews only United States efforts.

taking advantage of it. As a consequence, women suffered more stress fractures in their legs but, surprisingly, had a lower rate of sick call than men. The authors emphasized that, despite these drawbacks, 75 percent of the women performed adequately. The resignation rate during the summer was 16 percent for women and 10 percent for men.

Another unique setting for studies of sex differences in performance was USS SANCTUARY (AH 17), the only sexually integrated Navy ship to date. One such study was performed by a team of human factors specialists during a 52-hour cruise (Martin, Sabeh, Kritz, & Driver, 1973). The researchers lived with ship's personnel, collecting both objective and subjective data, to study the ship's habitability and the impact of having women aboard. The authors reported that women were able to perform their tasks and that no insolvable problems due to physical weakness had developed. Difficult jobs were accomplished with the assistance of another crew member, female or male. Women, however, needed extra training in routine ship procedures and safety because they lacked both sea duty experience and the apprenticeship training given to male recruits. A team of ship's designers also sailed and lived with SANCTUARY's crew for a few days in 1973 (Female Personnel Aboard Ship, 1974). Their observations supported the evaluation by Martin et al. (1973) that the women had "admirably succeeded" in demonstrating their ability to perform duties aboard ship.

The Commanding Officer of SANCTUARY, in his evaluation of the first year of operation, discussed the women's performance by ship's departments, rather than in overall terms. This increased the value of his report because some of the jobs had no parallels in the women's previous experiences, whereas others were very similar to duties they were used to performing ashore. The following excerpts from the report (Note 6) highlight the positive and negative factors as seen by the Commanding Officer:

Hospital Department. Performance of duty of rated corpswomen onboard has been in par with that exhibited by other corpswomen assigned to shore activities . . . Not a single complaint has been made and the apparent excitement of sea travel and comfortable working conditions have overshadowed the drawbacks of crowded living quarters and lack of privacy . . . Their performance of duty has been exemplary.

Deck Department. Women on deck have worked long hours alongside the male members of the department and proportionately have shown a better than average sense of responsibility . . . Deck Department enlisted women have caused proportionately fewer problems than their male counterparts . . . The generally small physical build of women tends to limit the amount of heavy work they can easily handle. However, this liability, if such a description is correct, is not exclusively feminine . . . Menstruation cycles and the debilitation effect of periods have

become a small but consistent problem affecting the effectiveness and work output of several women.⁵

Operations Department. One enlisted woman . . . adapted to shipboard environment with fantastic ease . . . She assumed full watch responsibilities working 12 hours on and 12 hours off . . . in the ship's severely understaffed communications center . . . A second enlisted woman . . . constantly exhibits a tremendous sense of responsibility and competence. The third enlisted woman has proven very emotional and ineffective . . .

Besides the three enlisted women cited above, the operations department had received three strikers . . . One experienced many personal problems . . . Ultimately she became an unauthorized absentee and a deserter . . . In the case of both (of the other) women, their personal lives entered into their professional duties to a degree much greater than that experienced by the average male sailor . . . In the end, both women were given administrative discharges.

Resale Department. Work in Resale Department includes the operation of the ship's barbershop, laundry, drycleaning plant, soda fountain, the ship's store, clerical work in the resale office and routine military duties in quarter deck and security watches in port . . . Women have shown that they are willing to put forth more effort than their male counterpart . . . Women are more respectful, courteous and cheerful . . . [They] are better educated and more intelligent than their average male counterparts. For this reason generally they are better suited for clerical work and handling cash than the average man.

Administration Department. Enlisted women's performance within the department has been exemplary, if not in many areas surpassing that of their male counterparts in initiative, zeal, and enthusiasm. In comparison they have proven to be more accepting of military authority, bearing, courtesy, and responsibility.

⁵LT Susan B. Canfield, SANCTUARY's prospective Operations Officer, commented on the problem of female personnel's complaints of menstrual discomfort:

I suspect that the women are using this complaint to avoid some duties simply because most of their male supervisors will accept it with little question. In my own experience in working with Navy women over the past 6 years, I cannot recall one who has been absent from her job for this reason. I suspect that as more women fill supervisory positions this excuse will disappear.

Supply Department. The two rated women, DK2 (Disbursing Clerk) and an SK3 (Storekeeper), are performing their professional duties in a totally outstanding fashion. The performance of the two women strikers is satisfactory.

The Commanding Officer also noted that the disciplinary rate for women was half that of men during this first year of operation with an integrated crew.

In 1976 the General Accounting Office (GAO) prepared a report for the Congress, titled Job opportunities for women in the military: Progress and problems. It described (1) the efforts of the services to increase the number of job specialties open to enlisted female personnel and (2) women's status as of December 1974. The GAO found that most women were still assigned to administrative and medical jobs and that some of those assigned to the newly opened specialties were actually doing administrative work. The GAO report identified three main factors that contributed to the continuance of the traditional pattern of female utilization in the military:

1. The failure of recruiters to inform women of their occupational options.
2. The women's preferences for administrative or medical specialties.
3. The restriction against women participating in combat activities, which prevented their assignment to several specialties theoretically open to them.

It was noted, however, that a significant number of Air Force women were assigned to mechanical and electronic specialties. Such diversification had been accomplished through the establishment of quotas or by requiring women to accept such jobs to enlist at a specific time.

The GAO report also discussed women's ability to perform in the newly opened fields. It was noted that the factors used in assigning women were the same as those used for men; namely, aptitude, overall health, and personal preference. Supervisors and female personnel indicated that strength limitations precluded women from performing certain duties, resulting in increased workloads for men. Within the aircraft maintenance field, 41 percent of the women in training were having problems with physically demanding tasks whereas none of the men had such difficulties. The GAO report noted that only the Air Force has taken steps to develop physical standards for use in classifying both female and male applicants; the Office of the Surgeon General developed the following scale of physical capacity:

1. Can lift 70 pounds to a height of 6 feet.
2. Can lift 40 pounds to elbow height.
3. Can lift 20 pounds to elbow height.
4. Below minimum standard for enlistment or commission.

The requirements of Air Force specialties subsequently were assessed in relation to this scale and, by January 1976, the standards were applied in the classification of all recruits. The report recommended that the Department of Defense coordinate the services' efforts to develop operational physical standards where needed to ensure effective performance in a speciality.

While most military women are still working in jobs associated with their gender, the Army has noted a significant shift in the pattern of utilization of members of the WAC. Savell, Woelfel, and Collins (1975) defined the traditional career fields for enlisted women as being medicine, administration, communication, supply, and data processing. In 1973, 85 percent of the WAC were working in those fields. One year later, with the size of the corps increased 50 percent, only 76 percent were so assigned. The Navy also noted a decrease in the proportion of its enlisted females working in those categories: In 1973, 89 percent of the rated women were in the traditional fields as opposed to 83 percent in 1974. By 1975, however, a reversal had occurred and the figure had risen to 87 percent. Thomas (Note 3) attributed this to the 35 percent increase in the number of rated women in the Navy and to the limited number of permanent shore-based nontraditional billets. She hypothesized that traditionally female ratings will become even more feminized unless the law prohibiting women on ships is repealed or reinterpreted; indeed, Navy Military Personnel Statistics for 30 June 1976 indicate that 88 percent of the 13,550 rated active duty women were in the five traditional fields.

The utilization of women naval officers follows much the same pattern. Coye (1972) found that 83 percent of the unrestricted female line officers were in the traditional types of jobs in 1966. By 1971, there had been a decrease in the number of women assigned to the intelligence, scientific, and supply fields; and the traditional specialties accounted for 91 percent of the female line officers. Coye conducted personal interviews with 34 female officers and reported considerable ambivalence concerning their status relative to males. However, she cautioned against believing that the status quo would long prevail:

Any woman officer is extremely hesitant to speak up on the subject of so-called discriminatory practices. The reasons behind this hesitancy are complex and involve a realization that as a member of a minority grouping, the woman officer has no firm position in the bureaucracy. . . . Navy policies tend to support the traditional view and in the long term have appealed to women of this same viewpoint. Yet, it is very unlikely, in the coming decade of rising expectations among American women, that the organization can continue to accommodate women who hold such a variety of viewpoints. (p. 62)

One of the least traditional billets for Navy women, possible only since reinterpretation of Section 6015 of the Federal Code, is on harbor tugs. Because of the sudden influx of 21 nonrated women to one such unit in early

1975, the Commanding Officer turned to Navy manpower analysts for guidance in how to utilize his new personnel. An on-site study was conducted and reported by Kane, Guild, Leland, and Oedewaldt (1975). Interviews with tugmasters revealed that 57 percent of the women were capable of performing the duties of a deck hand, that 24 percent were assigned cooking duties so their abilities were untried, and that 19 percent were prejudged to be unable to work on the deck and had been given other assignments. Despite the fact that none of the women were volunteers for this type of duty, the analysts felt that they were doing their best to learn and adapt. One major problem was that the women had received no practical training, although all of the men had.⁶ Thus, the women required more on-the-job training, and the concern for their safety had engendered paternalistic behavior in supervisors. Unequal treatment of the sexes was intensified by the tugs' lack of berthing facilities for women. Women were excused from the Duty Tug Watch (a 24-hour watch) from 11:00 p.m. to 6:00 a.m., and the male crew members were required to function shorthanded if a call came during this period.

The aviation branch of the Navy also has opened some new jobs to women. Fanelli (1976) interviewed 20 enlisted personnel (female and male) about factors that affect female performance around aircraft. The questions focused on the tools, support equipment, clothing, training, and anthropometric requirements of the job. Two problems specific to women emerged: The inadequacy of working uniforms and the weight of ground support equipment. However, he observed that, rather than being a problem, the smaller stature of women may be an asset for working with aircraft.

The Air Force has concentrated its efforts in the job performance area on anthropometric considerations. At the request of MGEN Jeanne Holm, now retired, a study was undertaken in 1968 with 1,905 WAF to measure 137 body dimensions (Clauser, Tucker, Reardon, McConville, Churchill, & Laubach, 1972). Such data are indispensable for modifying equipment, sizing uniforms, and designing work spaces for women.

In 1974 a second, more applied study was conducted. It was hypothesized that, since Air Force tools and equipment had been designed for males, females in the newly integrated craft skills could experience reduced productivity due to the user/equipment mismatch (Bolalek & Grumblatt, 1975). Questionnaires were mailed to all WAF in the 3 and 5 proficiency levels of the 10 craft skills open to women. The women were asked to indicate their height, weight, age, and hand length and to evaluate the tools used in their work. Replies came from 649 women, or about 47 percent of the population at that time. The results indicated that at least one tool or equipment item in each craft skill was considered inadequate by 10 percent of the women. Some items common to several areas were consistently judged inadequate, among them the crimping tool, wire stripper, and goggles. The first two were unsatisfactory because of grips that are too wide for women's smaller hands and because of the pressure required to squeeze them, whereas the goggles were poor for reasons applicable to both sexes. Also mentioned were problems

⁶Starting in May 1976, Navy women who are not being assigned to technical training are given seaman or fireman apprentice training.

with work uniforms and shoes: The WAF fatigue uniform was criticized for lack of durability and a tendency to stain; the shoes, for being improperly sized for women's feet. In addition to concluding that tool inadequacies need to be validated and a process of redesigning them for females begun, Bolalek and Grumblatt had further observations to impart:

Tools alone, however, do not make an effective maintenance organization. The people in an organization are by far the greatest contributing factor in the success of any organization. It was rather surprising for us to receive such a large number of comments from WAF in the craft field. Many of the respondents offered comments which indicated that they had second thoughts about the appropriateness of craft skills for women. This is a highly relevant issue because of the increasing number of WAF which will be entering the craft skills in the next five years. By looking only at the anthropometric differences that exist between AF men and WAF, we may be ignoring the more significant potential sociological and psychological problems that may exist. (pp. 55-56)

The poor performance of women in Aircraft Maintenance Specialist training prompted another Air Force study (Department of the Air Force, 1974). Questioning equal samples of women and men ($N = 169$) revealed a significant difference in the attitudes of the sexes toward this career field: 28 percent of the women versus 8 percent of the men were unhappy with their job classification. It is interesting to note, however, that 85 percent of the women had enlisted with a guarantee of this speciality. The apparent inconsistency resulted from recruitment practices: at the time of enlistment the women had been told that Aviation Maintenance Specialist was the only occupation in which female quotas had not been filled and that they could cross-train to another specialty more to their liking after a short period in the Air Force. The study concluded that lack of motivation and inferior strength were the main causes of women's significantly poorer (than men's) performance during training for this job.

Summary

Although women clearly can fill most noncombat billets in the military, it would be foolish to argue that their generally smaller build and less-developed musculature does not impinge upon their ability to perform in jobs that are normed for males. Contrarily, the physical differences that women bring to the military may at times be an asset. Tests performed on applicants to the American space program demonstrated that females are more radiation-resistant than males and can tolerate heat, cold, pain, and noise better than males can (Galloway, 1976). At other times, however, biological differences are obvious liabilities, for only women become pregnant or suffer menstrual distress.

Aptitude measures that are used to classify recruits and to shuttle them into a training pipeline also play a major role in job utilization. Concern has been expressed recently about the new Armed Services Vocational Aptitude

Battery (ASVAB). Castle (1976) said the ASVAB is an instrument of "passive discrimination" because its 16 subtests are heavily weighted towards mathematical and technical knowledge. Cronbach put it more bluntly when he stated:

The inability of the typical high school girl to recognize a pipecutter or say what a thermocouple does indicates nothing about the career she could be trained for. The military ought to be encouraging more women to go into technical specialities, not using ASVAB to rule them out. (APA Monitor, 1977, p. 8)

Military assignments for women are based only in part on physiology and aptitude. Some policies that seem arbitrary or sexist prove, upon investigation, to be well reasoned responses to difficult situations. For example, while it seems unfair to enforce a strict quota on the number of females in Navy Personnelman school, there is a finite number of shore billets for Personnelmen and many of them must be reserved for men being rotated off sea duty. Thus, while abilities properly act as factors in job assignments, the major determinant of the utilization of women remains policy, as dictated by military needs.

LAWS AND REGULATIONS UNIQUELY AFFECTING WOMEN

Barriers to the full utilization of women in the military originate from three sources: the attitudes of women and men both in and out of the military, the laws of the land, and the regulations of the individual services. This chapter focuses on the latter two sources of differential treatment of the sexes, although societal attitudes are basic to the genesis and the removal of laws and regulations. While the following quotation refers to the American services, it is no less true for the other TTCP countries:

Congress will not pass bills to eliminate legal barriers unless the majority of the American people favor their elimination. The Services may not remove their barriers unless they feel compelled to change by the attitude of society, or the courts rule against the service practices that are discriminatory. (Tamplin, 1974, p. 40)

The fact that differential treatment of military women is legal, is socially endorsed, and is required by statutes and regulations influences all of the topical areas covered in previous chapters; that is, these laws and regulations determine the qualities of the applicant pool, distinguish between those who leave and those who make careers of the military, determine the job assignments and training that military women receive, and mediate interpersonal relationships.

Australia

The women's services of the Australian Army and Navy were not permanent forces until 1951, although they had been mobilized during World War II. The Women's Royal Australian Air Corps (WRAAC) has known continuous service since 1952. From the beginning the restrictions were many. According to COL K. M. Fowler, WRAAC (1975):

If existing laws did not require it, policies and regulations were quickly introduced which, however laudatory their paternalistic reasoning, served to deny the service-women all the benefits and privileges enjoyed by the men.
(p. 28)

In November 1974 the Prime Minister expressed concern that certain aspects of the Australian Defence Force were in breach of the 1955 Convention on the Political Rights of Women. Thus, in early 1975, the following practices were instituted to achieve greater sexual equality in the Australian military:

1. Women became eligible for all but the combat trades in the non-Field Force units.
2. A husband's consent was no longer required for a woman to join or remain in the military and withdrawal of consent was not automatic grounds for discharge.

3. Women who became pregnant were permitted to remain in the service.
4. Women were permitted to participate in small arms training.

Such changes notwithstanding, some inequities remained:

1. Women are denied access to Officer Candidate School and the Service Academy.
2. Women have different rank and pay categories than men.
3. Women officers are excluded from general military courses.
4. Women are allowed into only a very few noncombatant jobs in the Field Force, thus restricting their promotion and career prospects.

As of this writing, Australian women are still restricted from all aviation and sea-going billets.

Canada

The uninterrupted presence of women in the Canadian Armed Forces dates from 1951, when differential assignments for and treatment of the sexes were written into laws and regulations. In 1967, however, the Royal Commission on the Status of Women made several recommendations to bring about greater sexual equality in the military. Some of the recommendations that have been implemented are as follows:

1. The length of initial engagement was standardized at 5 years for both sexes. Previously, women enrolled for only 3 years.
2. Married personnel were accorded the same treatment, regardless of sex, and all special regulations that applied to married women alone were deleted.
3. The policy that pregnancy is sufficient reason for discharge was modified. A pregnant military woman who chooses to remain in the force must take 15 weeks of leave without pay but is entitled to unemployment insurance and full medical benefits during confinement.

The recommendation that all trades and officer classifications be opened to women was partially implemented. In 1971, the Minister of National Defence defined Canada's new basic policy on the utilization of women in the military: "No limitations on the employment of women in the Canadian Forces other than within the primary combat roles, employment at remote locations and sea-going service" (Gay, 1976). In 1976, women were admitted to 18 of the 27 officer classifications and to 62 of the 98 trades. However, each area is required to include a minimum number of men because of restrictions against women in combat and on naval vessels. In addition, the closed occupations are to be periodically evaluated with the goal of gradually opening them to females.

Several other recommendations of the Commission were not implemented. Remaining differential practices include the following:

1. Women are not admitted to the three military academies of the Canadian Forces. They are, however, integrated into the various university programs for officer training.

2. Survivor's benefits for the spouse of a service member are still different for members of the two sexes, with a widow receiving greater compensation than a widower.

Although Canadian women have made important gains during the past decade, they already enjoyed many rights denied some of their counterparts in other TTCP countries. For example, the Canadian Forces Staff School, National Defence College, and Noncommissioned Officer Development Training are fully integrated. Also, Canadian women are assigned overseas and may command men.

United Kingdom

The three female services in Great Britain operate under different regulations. The Women's Royal Army Corps (WRAC) and Women's Royal Navy Service (WRNS) are separated from the male services, whereas the Women's Royal Air Force (WRAF) is an integral part of the RAF.

WRAC members engage for 22 years and may resign after 3 years with 18 months notice, or 1 month notice for reason of marriage or pregnancy. Until April of 1975, women were not paid as much as men doing the same job. They still are given no weapons training.

Although WRNS, is an independent service, its members are recruited and selected by the Director of Naval Recruiting, and officer appointments are made by the Admiralty Interview Board. Married and single women receive the same pay as their male counterparts. Women are assigned to training ships that deploy on the high seas and make up the entire staff of the Weapons Analysis Branch.

RAF women and men function under very similar regulations, with the exception of job assignments. Female officers are recruited and trained as specialists, as are males, and are carried on the seniority list of their professional branch, competing with male officers for promotions. They are eligible neither for commission in the RAF Regiment (infantry, anti-aircraft gunners, and firemen), nor for training as pilots, navigators, or electronics officers in the General Duties Branch. Women can fly, however, as air loadmasters in transport aircraft. Although female and male officers are trained together from their day of entry into the RAF, airwomen and airmen are separated during recruit training. Airwomen are employed under the terms of the Geneva Convention. They are restricted from trades having unusual physical requirements, such as those for aerial erectors and the fire service. Within the past 3 years permission was granted for women over 18 to live in private quarters and the position of the WRAF squadron commander at stations having women was eliminated.

United States

The basic legislation authorizing and regulating cadres of women in the American forces is the Women's Armed Services Integration Act of 1948 (Public Law 625). This act established a policy of differential treatment of women and men. During the past 10 years many of its sections have been repealed. Some of the more restrictive portions of the act provided that:

1. "No person shall be enlisted who has not attained the age of 18 years; and provide further, that no person under the age of 21 years shall be enlisted in such corps without the written consent of her parents or guardians." This ruling was amended in May 1974 (Public Law 93-290), when age regulations for women were made identical to those for men.

2. The number of enlisted women could not exceed 2 percent of the male enlisted strength, women officers of the Navy and Marine Corps could not exceed 10 percent of enlisted female strength, and women officers in the Army and Air Force were limited to 2 percent of the male officer corps. In 1967, when the military's personnel needs skyrocketed because of the Vietnam War, the Congress removed the limit on the representation of women and gave the Secretary of each service the responsibility for determining the maximum number to be utilized (Public Law 90-130).

3. Women officers could not have a permanent commissioned grade above Commander (Navy) or Lieutenant Colonel (Army, Air Force, or Marine Corps). Public Law 90-130 also removed the ceiling on rank for women officers and a few women were appointed to Captain (Navy) and Colonel (other services). The Army gained its first nonmedical female general when the Director of the WAC was promoted in 1970, the Air Force created its first female general in 1971, and the Navy promoted its first woman line officer to Admiral in 1976.

4. Children of military women were not considered dependents unless their father was dead or their mother was their chief support. A May 1973 Supreme Court decision in a discrimination suit filed by an Air Force woman (*Frontiero vs. USAF*), decreed that women are entitled to the same benefits for their dependents as are military men.

Another legal basis for differential treatment of military women is found in Title 10 of the United States Code. Two sections affected the duty assignments of Navy and Air Force women:

6015: Women may not be assigned to duty in aircraft that are engaged in combat missions nor may they be assigned to duty on vessels of the Navy other than hospital ships and transports.

8549: Female members of the Air Force . . . may not be assigned to duty in aircraft engaged in combat missions.

Other sections of Title 10 require that the Army, Marine Corps, and Navy maintain separate promotion lists for women. However, legislation now before Congress would repeal these sections. Also, Title 10, by using the masculine

referent for appointees to the various military academies, traditionally has been interpreted as limiting such opportunities to men. Although such pronouns have not been changed, women were admitted to the service academies in 1976 as a result of the Stratton Bill.

Army and Marine Corps women are restricted to noncombatant roles not by federal law but by service regulations. The Army, following the spirit of the Title 10, prohibits the assignment of WACs to Category I units, whose mission is to seize and hold ground and to destroy the enemy. Marine Corps regulations also conform to the statutory restrictions on Air Force and Navy women and to Army regulations. Table 11 demonstrates the net effect of all of the laws, regulations, and policies on the numbers of women that can be utilized in the United States military services. These data indicate that the potential for increasing the number of women is greatest in the Air Force and least in the Marine Corps.

Table 11

Potential Population of Women in
United States Military Services
(in thousands)

Authorized Positions on 30 September 1977	Army	Navy	Air Force	Marine Corps	DOD Total
Total ^a	566.6	381.8	415.3	137.8	1,501.5
Combat and Combat Support	281.0	229.9	27.4	100.1	638.4
Theoretically Available to Women ^b	285.6	151.9	387.9	37.7	863.1
Rotation Base ^c	23.3	84.2	0	28.4	135.9
Other Imposed Limits ^d	217.0	38.0	72.1	2.4	329.5
Available to Women ^e	45.2	29.7	315.8	6.9	397.6
Women Currently On-board	35.3	15.8	29.7	2.4	83.2

Note. From Office of the Assistant Secretary of Defense (1977).

^aExcludes transients, patients under treatment, prisoners, students, and trainees.

^bTotal positions minus those defined as combat or combat support from which women are excluded by federal law or service regulations.

^cPositions within the United States that are reserved for men being rotated off ships or from specified overseas units.

^dService-imposed limitations due to inadequate facilities for unmarried women, control on the concentration of women within noncombat units, protection of male career progression, and other management considerations.

^ePositions theoretically available to women minus those reserved for the rotation base and those on which other limits have been imposed.

A number of service regulations applying only to females have been liberalized or voided during the past 10 years. The following are among the more important changes:

1. Women are now admitted to the Reserve Officer Training Corps (ROTC), the means by which an American youth can obtain a college education in return for 6 years of obligated duty as a military officer. The Air Force admitted women to four of its ROTC units on a trial basis in 1969. The Army and Navy followed suit in 1972, and today almost all units will accept women.

2. Married women and mothers are now permitted to enlist or to be commissioned. The Air Force's prohibition against such accessions was deleted in 1971, as were the regulations in the other services in 1972 through 1974. Discussions held with local recruiters in November 1977 revealed that official policy and practice diverge. Today, a single mother (never married, separated, or divorced) would have considerable difficulty enlisting: The Army recruiter would refuse such an applicant on grounds of character disorder, the Navy recruiter would provide such strong discouragement that few would venture to breach the system, the Air Force recruiter would require assignment of permanent custody of the child to a civilian and would submit a waiver request for the potential enlistee, and the Marine Corps recruiter would require proof of temporary custody and would seek a waiver from his local command. Practices for married mothers varied according to whether the husband was a civilian, same-service enlistee, or other-service enlistee.

3. Women who become pregnant while in the service are no longer automatically discharged. In 1971 the Air Force, faced with suits by a commissioned officer and an enlisted woman, amended its regulations and made provision for waivers to the mandatory discharge for pregnancy. However, the new policy does not encourage the retention of pregnant women ("Pregnancy Rules Force Most WAF to Leave," 1972). The other services expressed a similar policy when they modified existing pregnancy restrictions. By 1976, after several more modifications, the regulations on pregnant service members had all but disappeared. Today, a woman may not be discharged against her will for reasons of pregnancy but pregnancy is a sufficient reason for her to request a discharge "at the convenience of the Government."

Although American military women undeniably have made great strides in their push for equality, policies still exist that result in differential treatment of the sexes based solely on gender. For example, formal policy requires that women be better educated and score higher on selection tests than men to be eligible to enlist in the Army, Marine Corps, and Navy.⁷ Informal policy often results in female personnel being denied entry approval for their dependents in overseas areas where male personnel experience no such difficulty. Slow progress will probably continue as a result of court decisions and more lenient interpretation of Title 10, if dictated by the needs of the military. However, such a "go-slow" policy is not without penalty. As Tamplin (1974) pointed out:

⁷ In the Army, for example, male high school graduates must have a percentile score of 16 to be eligible for enlistment and male non-high school graduates must score 31. Female applicants must be high school graduates and score 59 to be eligible.

Of the three areas of restrictions to the utilization of women by the Armed Forces (civil, military, societal), the category defined as Service Restrictions stands out as the most damaging to the credibility of the Services when they point to themselves as areas of true equal opportunity to women. This area alone is totally within the power of each of the individual Services to correct . . . Rather than taking the necessary actions to perform this themselves, the Services have chosen to fight for the discriminatory practices found within their structures. As a result, the Armed Services have . . . crippled their own recruitment efforts by adverse publicity. (p. 18)

Summary

From the beginning, women in the military were subject to special regulations and laws and were specifically exempted from others. Such separateness inevitably led to differential treatment by male personnel and by the organizations to which they belonged. However, considerable progress toward sexual equality has been made in the most recent decade. Canada appears to have been in the forefront, nudged along by the Royal Commission on the Status of Women. The United States, The United Kingdom, and Australia followed, not so much because Canada had taken the step but because of events occurring in their own lands.

Until just a few years ago, it was fairly easy for an unhappy American servicewoman to obtain a psychiatric discharge with the aid of a sympathetic doctor. Horn, a Navy doctor, expressed the prevailing philosophy when he stated, "No purpose is served by holding a woman to her enlistment contract if she is not making an adjustment to service life" (1965, p. 22). If no purpose is served when the member is female, then it would seem to follow that only males serve a purpose in the military. This message is clearly communicated by many of the laws and regulations discussed in this chapter.

CONCLUSIONS

The impact of the sexual revolution is just beginning to be felt in the military. Two-thirds of the research on women in the armed forces of the four major English-speaking countries has been published in just the last 2 years. That research's emphasis on intersex differences in motivation, aptitude, and anthropometry was to be expected because military women were an unquantified subgroup. However, the probability that the steepening decline in the number of male births will result in greater utilization of females in the military is reflected by a new approach. Human resource management is becoming the relevant terminology, and the focus is on obtaining the most qualified person at the least expense. Such a cost-effectiveness approach favors women, since female recruits are admitted under far more stringent standards than males. However, the military's advantageous position in such respects will be jeopardized as the male labor force declines further and as the civilian demand for women's skills grows. Thus, it may be anticipated that the quality and quantity of military-available women will be similar to those of men by the mid-1980s (Binkin & Bach, 1977).

Despite the breadth of the research reviewed in this report, there are obvious gaps in the literature. For example, no studies of women's career behavior have been reported. As the number of women increases to a significant proportion of the force, however, such data will be essential for meaningful manpower projections. Another neglected area is that of interpersonal problems in cross-sex supervision or leadership, despite the probability that traditional patterns of behavior with the opposite sex are at odds with the supervisor/subordinate relationship in a military setting. Finally, with the exception of nurses, virtually no research has been conducted on female officers.

A logical explanation for the recency and paucity of research is that, until recently, the number of women in the military has been quite limited. Consequently, the investigation of existing problems has been given low priority. However, as shown by the increasing volume of recent literature, the era of neglect has passed, along with the period of simply describing and quantifying the female military member.

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REFERENCES

- Arbogast, K. A. Women in the Armed Forces: A rediscovered resource. Military Review, November 1973, 9-19.
- Binkin, M., & Bach, S. J. Women and the military. Washington, DC: The Brookings Institution, 1977.
- Bolalek, P. J., & Grumblatt, A. G. A study to determine the adequacy of the tools and equipment used by Air Force women in the craft skills (AD/A-006342). Wright-Patterson Air Force Base, OH: Air Force Institute of Technology, January 1975.
- Bowers, D. G. Values and their impact for Navy and civilian respondents. Ann Arbor: Institute for Social Research, University of Michigan, June 1973.
- Castle, M. J. Women (and men) in the U.S. Army: A study in optimal utilization. Monterey, CA: Naval Postgraduate School, December 1976.
- Central Office of Information. WRAC: A study of attitudes among new and potential recruits. London, England: Author, 1975.
- Chappell, N. L. Commitment to work among female privates and corporals at Canadian Forces Base Toronto (Rep. 77-4). Toronto, Canada: Canadian Forces Personnel Applied Research Unit, 1977.
- Clauser, C. E., Tucker, P. E., Reardon, J. A., McConville, J. T., Churchill, E., & Laubach, L. L. Anthropometry of Air Force women (AMRL-TR-70-5). Wright-Patterson Air Force Base, OH: Aerospace Medical Research Laboratory, AMD, AFSC, April 1972.
- Cowper, J. M. A short history of Queen Mary's Army Auxiliary Corps. Women's Royal Army Corps Association, 1967.
- Coye, B. F. The restricted unrestricted line officer: The status of the Navy's woman line officer. Naval War College Review, March 1972, 53-63.
- Department of the Air Force, Training of enlisted women as jet aircraft maintenance specialists (PR 74-4). USAF School of Applied Aerospace Sciences, Sheppard Air Force Base, TX: 9 August 1974.
- Director Women Personnel Canadian Forces. Women in the Canadian Forces. Ottawa, Canada: National Defense Headquarters, 1976.
- Durning, K. E., & Mumford, S. J. Differential perceptions of organizational climate held by Navy enlisted women and men (NPRDC TR 76TQ-43). San Diego: Navy Personnel Research and Development Center, August 1976. (NTIS No. ADA-029 756)
- Fanelli, A. J. The impact on naval aviation maintenance of more women entering the Navy (TR 03-40). Patuxent River, MD: Naval Aviation Integrated Logistic Support Center, May 1976.

PRECEDING PAGE BLANK

- Female personnel aboard ship: Habitability design considerations (N. S. 0933-005-5040). Washington, DC: Naval Ship Engineering Center, Ship Arrangements Branch, January 1974.
- Fowler, K. M. The changing role of women in the Armed Forces. Army Journal, 1975.
- Fuller, C. H. Attitudes toward the role of women in the Navy: Interim report (Special Rep.). Washington, DC: Naval Personnel Research and Development Laboratory, May 1973. (a)
- Fuller, C. H. The role of women in the Navy: A study of attitudes and scale development (WTR 73-41). Washington, DC: Naval Personnel Research and Development Laboratory, June 1973. (b)
- Galloway, J. M. The impact of the admission of women to the service academies on the role of the woman line officer. American Behavioral Scientist, 1976, 19(5), 647-664.
- Gay, M. Notes on the role of women in the Canadian Forces. Ottawa, Canada: National Defense Headquarters, 1976.
- General Accounting Office. Job opportunities for women in the military: Progress and problems (FPCD-76-26). Washington, DC: 1976.
- Grace, G. L., Steiner, M. B., & Holoter, H. A. Navy career counseling research: Navy wives study (Tech. Rep. No. 7). Santa Monica, CA: Systems Development Corporation, 10 September 1976.
- Hancock, J. B. Lady in the Navy, a personal reminiscence. Annapolis, MD: Naval Institute Press, 1972.
- Haswell, G. Women in the Canadian Forces. Sentinel, 1974, 5, 16-19.
- Horn, E. L. The problems associated with retention of young enlisted women in the U.S. Navy. Monterey, CA: Naval Postgraduate School, 1965.
- Howard, P. Women at war: Boudicca did not know what she had started. London Times, February 23, 1977.
- Kane, J. E., Guild, J. C., Leland, F. X., & Oedewaldt, E. C. Service craft section, Naval Station, San Diego (Rep. 155-75). San Diego: Navy Manpower and Material Analysis Center, Pacific, July 1975.
- Keenan, K. M. Reasons for joining and early termination of service in WRAC (Rep. No. 24/75). Farmborough, Hants GB: Army Personnel Research Establishment, 1976.
- King, G. M. Male and female attitudes toward the role of women in national security. Framingham, MA: Framingham State College, March 1973.

- Martin, J. I., Sabeh, R., Kritz, A. C., & Driver, L. L. Women aboard ship: Habitability design considerations (NELC Tech. Note 2418). San Diego: Naval Electronics Laboratory Center, June 1973.
- Mullins, C. J., Williams, J. D., Vitola, B. M., & Michelson, A. E. Effectiveness evaluation of Air Force advertising (AFHRL-TR-75-45). Lackland Air Force Base, TX: Air Force Human Resources Laboratory, September 1975.
- Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs & Logistics). Use of women in the military: Background study. Washington, DC: May 1977.
- Plog, S. C., & Kahn, O. I. Reenlistment and retention of effective women in the Women's Army Corps: An exploratory research investigation (RM 74-3). Arlington, VA: Army Research Institute, February 1974.
- Pregnancy rules force most WAF to leave. Air Force Times, 7 June 1972, p. 17.
- Report of the Royal Commission on the Status of Women in Canada, Ottawa: Queen's Printer, 1970.
- Salas, R. G. A survey of attitudes held towards the Royal Australian Army Nursing Corps: Part I regular officer and civilian attitudes (Res. Rep. 3/69). Albert Park Barracks, Melbourne: Australian Army Psychological Research Unit, May 1969. (a)
- Salas, R. G. Scaling the satisfaction of female officer and other-rank members with life in the Royal Australian Army Nursing Corps (Res. Rep. 5/69). Albert Park Barracks, Melbourne: Australian Army Psychological Research Unit, 1969. (b)
- Savell, J. M., & Collins, B. Soldier's attribution of contemporary vs. traditional sex-role attitudes to themselves and to others (RM 75-7). U.S. Army Research Institute for the Behavioral and Social Sciences, July 1975.
- Savell, J. M., Woelfel, J. C., & Collins, B. Attitudes concerning job appropriateness for women in the Army (RM 75-3). U.S. Army Research Institute for the Behavioral and Social Sciences, June 1975.
- Seeley, L. C. Survey of attrition factors among WAC basic trainees (Res. Study 70-3). U.S. Army Behavior and Systems Research Laboratory, April 1970.
- Segal, D. R., Kinzer, N. S., & Woelfel, J. C. The concept of citizenship and attitudes toward women. Sex Roles, 1977, 3(5).
- Tamplin, J. A. Women in the military: A question of utilization (AD/A-003 789). Monterey, CA: Naval Postgraduate School, December 1974.
- Thomas, P. J. Why women enlist: The Navy as an occupational choice (NPRDC Tech. Rep. 77-20). San Diego: Navy Personnel Research and Development Center, March 1977.

Treadwell, M. E. U.S. Army in World War II: Special studies--The Women's Army Corps. Washington, DC: Office of the Chief of Military History, Department of the Army, 1954.

United States Coast Guard. U.S. Coast Guard at war. Washington, DC: U.S. Coast Guard Headquarters, 15 April 1946.

Vitola, B. M., Mullins, C. J., & Weeks, J. L. Characteristics of women in the Air Force 1970 through 1973 (AFHRL/TR-74-59). Lackland Air Force Base, TX: Air Force Human Resources Laboratory, July 1974.

Webster, E. G., & Booth, R. Success and failure among male and female Navy paramedical specialists. Journal of Community Psychology, 1976, 4, 81-88.

REFERENCE NOTES

1. Thomas, P. J. Why women enlist in the Navy and leave prematurely. Paper presented at the meeting of the Western Psychological Association, Seattle: April 1977.
2. Thomas, P. J., & Durning, K. P. The military woman and the Navy wife. Paper presented at the meeting of the American Psychological Association, Washington, DC: September 1976.
3. Thomas, P. J. Utilization of enlisted women in the military (NPRDC Tech. Note 76-7). San Diego: Navy Personnel Research and Development Center, May 1976.
4. Durning, K. P. Women's experiences in male-dominated career fields and work groups. Paper presented at the meeting of the Western Psychological Association, Seattle: April 1977.
5. Vitters, A. G., & Kinzer, N. S. Preliminary report on women cadets at the United States military academy (Unpublished paper). October 1976.
6. Commanding Officer, USS SANCTUARY. Report on the evaluation of the assignment of women to the USS SANCTUARY (AH 17), 1973.